# Gleanings in Bee Culture

**Established 1873**

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**JULY, 1937**


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**E. R. Root and M. J. Deyell, Editors; M. W. Hobart, Assistant Editor; H. H. Root, Associate Editor; D. C. Babcock, Circulation Manager.**

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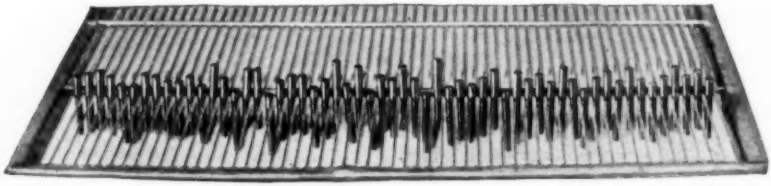
# Are ...You... Buying a Honey Excluder?



**Welded Wire Queen Excluder with Inaccurate Spaces**
**AS SHOWN BY THE TAPER PIN GAUGES**

**50%** OF THE SPACES WILL EITHER PREVENT WORKER BEES FROM PASSING THRU OR WILL PERMIT THE QUEEN TO GO THRU.

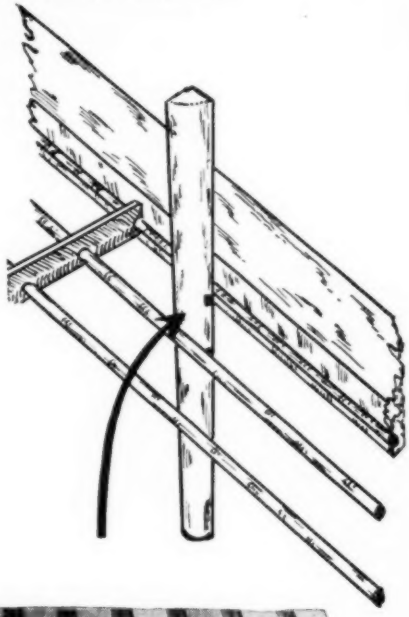
• • •

NOTE—The Root Company spent over $1000.00 in attempting to weld an accurate Queen Excluder. One of the largest wire welding concerns stated that it was impossible to weld wires and keep the variation of spacing within 6 1000ths of an inch.

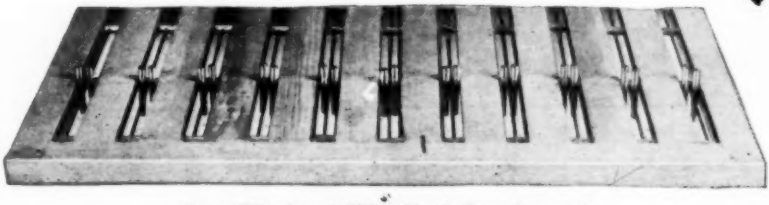
• • •

or a---

## Queen Excluder?



**TAPER PIN SHOWS PROPER SPACING**



**Root Wood and Wire Excluders Accurate**
**(ALL SPACES ARE EVEN AS SHOWN)**

**NOTE—Bees prefer to walk on wood and there is plenty of ventilation to take care of the possible air passing between the combs. The heavy steel forms hold the wire absolutely at proper spacing (158 to 164 1000ths of an inch) and there is little chance for propolis or burr-comb to distort the wires.**

**Send a 3c Stamp to P. O. Box H-4 for a Root Queen Excluder Tester**

The A. I. Root Co.
Medina, Ohio, U. S. A.

Root QUALITY BEE SUPPLIES

# CONTAINERS

Root QUALITY BEE SUPPLIES

**98% of Orders Shipped the Same Day**

Friction Top Pails.
Sixty Pound Cans—2½" cap.
Glass Jars—3 styles—7 sizes.
Cellophane Wrappers.
Comb Honey Window Cartons.
Comb Honey Shipping Cases.
Car-Load Stocks.
You can depend on prompt shipment.

Write for price list.

**The A. I. Root Company of Iowa**
COUNCIL BLUFFS, IOWA

# Honey Containers
## Season--1937

We carry in Stock

Friction Top Pails
2½ lb., 5 lb., and 10 lb.
Five Gallon Cans
in bulk, and two to the wood case.
Glass Jars
5 oz., 8 oz., 16 oz., 24 oz., 32 oz., and 48 oz.
Window Cartons for Comb Honey.
Plain and Decorated Cellophane Wrappers.
Paper Cases for 24 Sections of Honey
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Beeswax wanted.

**M. H. HUNT & SON**
LANSING, MICH.

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You can't afford to be without our Specials for July. (Get a Muth Bee Veil Free).

Honey extractors, pails, glass jars, cellophane wrappers, shipping cases and other wooden ware supplies at special prices. If you are not on our mailing list—drop us a postal card now.

Wanted, White and Amber Extracted Honey—send us a sample, tell us how much you have, how it is packed, etc. We can furnish empty containers free. Also Fancy and No. 1 Comb Honey.

Have your Old Combs rendered and your wax worked into foundation at our low prices, while they last.

## The Fred W. Muth Co.

Pearl and Walnut Cincinnati, Ohio


XUM

# The Monthly Honey Market

## U. S. GOVERNMENT REPORT

**Information from Producing Areas (first half of June).**

**California Points:** Southern California—Weather conditions during the first two weeks of June continued rather unsettled, with considerable cloudiness and with light precipitation in some areas. Temperatures have ranged normal to below. The cooler weather during the latter part of May was instrumental in curtailing nectar flow of the orange and black sage so that the crops of both are less than had been anticipated. The quality of this year's Orange and Black Sage honey is reported exceptionally good, however, and the body is heavy. White sage is just beginning to blossom and buckwheat is budding and in some sections has begun to bloom. Colonies are being moved to buckwheat locations and to late sage areas from the orange groves. Wild alfalfa is yielding. Much swarming reported, resulting in a considerable increase in the number of colonies. Yields of orange continue to range from 30 to 80 pounds or more, with many colonies in Orange County averaging 70 pounds or above. Many yards elsewhere fell short of this figure, however, and throughout the Riverside area the average may not exceed 40 pounds. Many colonies are being moved from the Orange groves to the Mountain States. A steady flow of Light Amber nectar continues in the Blythe Section. Trading was fairly light and mostly in small lots during the first part of June, with prices unsettled. Orange and Sage honey is ready for market in considerable quantities, with many beekeepers, especially the larger ones, holding their stocks firmly. Prices to beekeepers in ton lots or more, f. o. b. Southern California points, range per lb. as follows: New crop, Orange, Extra White to Water White 5½-5⅞c, White 5-5¼c; Sage, Extra White to Water White 5¼-5⅝c, some White 5-5¼c. Beeswax has been in fair demand but at lower prices, with good quality yellow wax bringing 21-23c, few up to 24½c per lb. delivered Los Angeles.

**Imperial Valley**—Conditions are irregular. Bees in some areas have a good honey flow, but in others no nectar of importance is yet reported. The latter situation is especially true where farmers cut their alfalfa before it bloomed. Extracting is expected to start soon. The condition of the colonies is generally good.

**Central California**—Temperatures have been irregular, with periods of warm weather and clear skys followed by cloudiness and scattered rains. High winds damaged crops in some sections. Bees are working on wild buckwheat, yerba sante, wild alfalfa, spikeweed and cultivated alfalfa. Wild buckwheat looks well, but spikeweed is drying up badly in many places. Cotton is mostly late but prospects from this source are good. The principal interest is centering in Sage honey, of which a good crop is in prospect. Buying from local dealers has been light and many are holding off until prices are more settled. With favorable prospects for a good crop of new honey, the market shows a slightly weaker tendency. Orange and Sage honey are in liberal supply but stocks of other honeys are reported light and some dealers have had difficulty in obtaining Light Amber and Amber honey for their trade. The body and flavor of Orange and Sage are reported excellent, but the yield is below that of Southern California. The Orange crop is reported to range 10 to 30 pounds in different yards while Sage yields so far range 10 to 50 pounds with different beekeepers. Sales reported Sage, White to Extra White 5¾-6¼c per lb.

**Northern California**—Along the coast many cool, cloudy days have been reported but in the interior valleys temperatures were above normal. Some rainfall reported in the higher altitudes. The general outlook is for an average crop of Thistle, Alfalfa and Wild Flower honey. Many colonies are being moved to the high mountains to obtain a flow that will build them up for the major honey crops. Alfalfa and mustard are yielding lightly. The market has been quiet, with limited supplies of new crop honey available for the market. Sale reported of Extra Light Amber Mixed Mountain Flowers at 4c per lb.

**Pacific Northwest:** West of Cascades—The weather has been unusually warm with occasional showers and the weather has been ideal for bee activity. Berries, vetch and clover have been yielding well and colonies that did not suffer seriously early are making good gains. Although clover and vetch were badly frozen and are two weeks late bees are working on these sources, and in the fireweed area clover, pea vine and figwort are yielding. Present prospects are that the honey flow will be heavier than anticipated earlier. In the Medford Section spray poisoning has been serious. First cutting of alfalfa is about over in Southern Oregon and the lower Willamette Valley, with some clover and alfalfa being cut in the upper Willamette and in Southern Washington. Few alvance sales of Clover-Vetch reported, White 6½c, Light Amber 6¼c per lb.; White Fireweed, 60s 8c, small pails 10 1/5c; Other Light Amber Mixed, small pails 8½c per lb. Dealers are paying 23c per lb. for beeswax, but demand is slow.

**East of Cascades**—In the **Yakima Section** temperatures have been above normal with a few hot days. Alfalfa and yellow sweet clover are starting to bloom and bees are actively at work on them. Colonies are generally strong in numbers, with an abundance of brood, and some are accumulating surplus. Considerable swarming reported. In the **Umatilla Valley** a minor flow is on from wild flowers, and first cutting alfalfa is now in bloom. The best Black Locust flow in years reported, with colonies taking off 5-30 lbs. surplus according to their strength. More colonies than usual were rented to orchardists but weather conditions for pollinizing were unfavorable. Swarm control is more of a problem because bees were kept in the orchards later than usual. Sales reported, White Alfalfa, small pails 8½c, 60s 8¼c per lb.

**Intermountain Region:** Most large honey producers are sold out and the last remaining lots are being picked up by truck for local packers. Fair demand reported, with prices generally steady to firm. Two carlot sales Water White Sweet Clover-Alfalfa have moved at 5½c per lb.; less carlots White to Water White 5¾-6c per lb., small pails 7-8c; Light Amber, 60s 6½c per lb. Beeswax is holding steady with yellow wax quoted at 23-25c per lb., darker wax low as 22c per lb. Details by States follow:

**The Same Good Golden Italians**

Queens, rest of the season, each . $ .50
2-lb. pkg. bees with queen . . . . . 1.95
3-lb. pkg. bees with queen . . . . . 2.55

Your orders appreciated.

**E. A. SIMMONS APIARIES**
**Powell Owen, Mgr. Greenville, Ala.**

**Colorado**—Cold, wet weather during this period has kept bees from doing much work although first crop alfalfa has been in bloom. They have been building up rapidly, from stores gathered during dandelion and fruit bloom, however, and package bees have been used freely to make up winter losses and to strengthen weak colonies. Some swarming reported. The alfalfa weevil is reported serious and will probably cut the flow short. Chilled brood reported in some sections.

**Idaho**—Cool, windy weather, with frost on several mornings, retarded bee activities and made is necessary to do some feeding. Bees have been slower in building up than usual, but package bees have aided some beekeepers in making considerable increase. Yellow sweet clover and alfalfa are just starting to bloom and nectar will soon be available. Water and plant conditions are below normal. Swarming is two to three weeks later than usual.

**Plains Area:** Red River Valley of Minnesota and North Dakota—Ample rainfall is reported generally throughout the Valley. Clovers are coming along well but a scarcity of sweet clover is reported in areas where rainfall was most deficient last summer. Colonies are building up for strength satisfactorily under the impetus of fairly good sources of nectar and pollen. One carload Water White Sweet Clover reported sold at 6c per lb.

**East Central and North Central States:** Michigan—Considerable rain has fallen in the central and southern parts of the State, but Northern Michigan is still dry and prospects in that area are not bright for a flow from any sources except milkweed and goldenrod. Some colonies, however, securel a surplus from wild and cultivated cherries. Alsike and white clover plants

(Continued on page 452)

## Monthly Report of Honey Producers

Early in June we sent the following questions to honey producers: 1. At what price has honey been sold or contracted for, if any, in large lots (carload lots or less) in your locality during the past month for (a) Extracted honey, per pound? (b) Comb honey, Fancy and No. 1, per case? 2. What are prices when sold to grocers in case lots of (a) Extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, Fancy and No. 1, per case? 3. What is the retail price to consumers in your locality of (a) Extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, Fancy and No. 1, per section? 4. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 5. How does the number of colonies that are in condition to store surplus honey this season compare with the number of such colonies last year? Give answer in per cent. 6. What is the condition of the honey plants at this time in your locality as compared with the average? Give answer in per cent. 7. What is the per cent of winter and spring loss of colonies (if any) in your locality? Give answer in per cent. 8. What is the present condition of the colonies in your locality as compared with normal? Give answer in per cent. The answers returned are tabulated as follows:

| State. Name. | Large lots. Ex. | Large lots. Comb. | To grocers. Ex. | To grocers. Comb. | To retailers. Ex. | To retailers. Comb. | Movement. | No. colo. | Cond. of plants. | Pct. Cond. of loss. | Cond. of colo. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B. C. (A. W. Finlay) | .09¾ | | .70 | | .85 | | Slow | 80 | 100 | 30 | 80 |
| S-Calif. (L. L. Andrews) | .05¾ | | | | .62 | .15 | Fair | 80 | 100 | 20 | 100 |
| S-Calif. (Geo. Larinan) | | | | | .50 | | Fair | 100 | | 20 | 100 |
| C-Calif. (Davis Bros.) | | | .43 | | .55 | .20 | Fair | 80 | 80 | 5 | 90 |
| SE-Colo. (O. E. Adcock) | | | .42 | | .50 | | Fair | 100 | 100 | 10 | |
| E-Conn. (Allen Latham) | | | .75 | 4.50 | .90 | .28 | Fair | 100 | 125 | 5 | 100 |
| S-Fla. (C. C. Cook) | .05½ | | .43 | | .58 | | Fair | 100 | 100 | 10 | 100 |
| C-Fla. (Harry Hewitt) | | | .50 | | .65 | | Fair | 100 | 120 | 2 | 110 |
| SE-Ga. (J. J. Wilder) | .07 | | .50 | | .65 | | Fair | 100 | 100 | 7 | 100 |
| NC-Ills. (A. L. Kildow) | | | | | .50 | | | 75 | 0 | 20 | 80 |
| NC-Ind. (T. C. Johnson) | | | .55 | 3.60 | .65 | .20 | Fair | 95 | 50 | 5 | 90 |
| NW-Ind. (E. S. Miller) | | | .50 | | .65 | .20 | Fair | 90 | 50 | 10 | 100 |
| W-Iowa (E. G. Brown) | | | .55 | | .65 | | Fair | 100 | 25 | 25 | 90 |
| S-La. (E. C. Davis) | | | .40 | | .55 | | Fair | 100 | 100 | 10 | 100 |
| N-Mich. (Ira D. Bartlett) | .06½ | | | | | | Slow | 75 | 80 | 25 | 90 |
| E-Mich. (L. S. Griggs) | | | .45 | | .60 | .18 | Fair | 100 | 100 | 15 | 80 |
| S-Mich. (Floyd Markham) | .07½ | | .55 | | .75 | | Fair | 100 | 50 | 5 | 100 |
| C-Mich. (E. D. Townsend) | .08 | | | | | | Fair | 100 | 80 | 0 | 125 |
| E-Minn. (Floyd W. Ray) | .06½ | | .45 | | .57 | | Slow | 100 | 90 | 8 | 90 |
| W-Minn. (B. L. Morehouse) | .06 | | .55 | | .75 | | Slow | 100 | 90 | 5 | 95 |
| C-Nebr. (J. H. Wagner) | | | .53 | 3.60 | .69 | .20 | Slow | 85 | 85 | 15 | 90 |
| W-Nev. (Geo. G. Schweis) | | | | | .45 | .20 | | 100 | 95 | 10 | 100 |
| W-N. M. (C. A. Baltzley) | .07¾ | | .50 | | .60 | | Fair | 110 | 80 | 5 | 100 |
| W-N. Y. (Adams & Myers) | .07½ | | | | .65 | .20 | Fair | 80 | 40 | 10 | 90 |
| NW-N. Y. (Geo. B. Howe) | | | | | | | Fair | | 100 | | 100 |
| NW-N. C. (C. S. Baumgarner) | | | .75 | | .90 | .20 | Fair | 100 | 100 | 10 | 100 |
| SE-N. C. (W. J. Martin) | .06½ | | .65 | | .85 | .20 | Fair | 100 | 110 | 5 | 100 |
| C-Ohio (R. D. Hiatt) | | | .57 | 4.50 | .75 | .25 | Fair | 95 | 80 | 8 | 90 |
| NC-Okla. (C. F. Stiles) | | | .45 | | .65 | | | 100 | 90 | 10 | 90 |
| C-Ore. (H. A. Scullen) | | | .40 | | .55 | | Fair | 75 | 75 | 5 | 75 |
| C-Pa. (Harry Beaver) | | | .50 | | .65 | | Slow | 100 | 100 | 3 | 100 |
| SE-Pa. (D. C. Gilham) | | | .70 | 3.75 | 1.00 | .25 | Slow | 130 | 90 | 2 | 110 |
| W-S. C. (E. S. Prevost) | | | .85 | | .95 | | Fair | 70 | 100 | 20 | 90 |
| C-Tenn. (J. M. Buchanan) | | | | | .75 | | Slow | 100 | 100 | | 100 |
| E-Tenn. (W. L. Walling) | | | | | .85 | | Fair | 125 | 110 | 0 | 125 |
| S-Texas (J. N. Mayes) | .05 | 4.20 | .40 | 4.20 | .50 | | Fair | 90 | 75 | 8 | 90 |
| S-Texas (H. B. Parks) | .05 | | .42 | | .50 | | Fair | 100 | 90 | 2 | 100 |
| Utah (W. H. Hendricks) | .08 | | .43 | | .47 | | Rapid | 50 | 75 | 45 | 50 |
| W-Vt. (Phillip Crane) | | 4.12 | | 4.25 | 1.00 | .28 | Fair | 110 | 100 | 10 | 110 |
| S-Va. (T. C. Asher) | | | .55 | 3.00 | .75 | .18 | Fair | 100 | 100 | 5 | 100 |
| C-Wash. (G. W. B. Saxton) | | | .43 | | .50 | | Fair | 100 | 100 | 25 | 100 |
| SE-Wisc. (N. E. France) | | | | | .62 | .14 | | 15 | | 15 | |
| N-Wyo. (Earl C. Reed) | | | .50 | | .60 | | Fair | 75 | 50 | 10 | 100 |

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**Delivery direct from our yards to you on the date you say**

**PRICES: GENUINE ITALIAN QUEENS**
**Postpaid to you**

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| Untested ..... | Each $ .50 |
| Tested ..... | Each 1.00 |

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| | |
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| 2-lb. pkg. with Queen..... | $1.95 |
| 3-lb. pkg. with Queen..... | 2.55 |
| 2-lb. pkg. without Queen..... | 1.45 |
| 3-lb. pkg. without Queen..... | 2.05 |
| For each additional pound of bees.. | .60 |

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**Hilbert Method Cut Comb Honey**

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Attorney for The A. I. Root Co.

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**Removable Reversible Basket Honey Extractors**

Our Style 15-4 Extractor shown here has 4 Removable Reversible Baskets for Standard 9⅛" frames, that can be lifted up and out to clean or disinfect in boiling water. The gears are always in mesh, with ratchet crank and brake, and is the easiest to turn of any 4-basket extractor on the market.

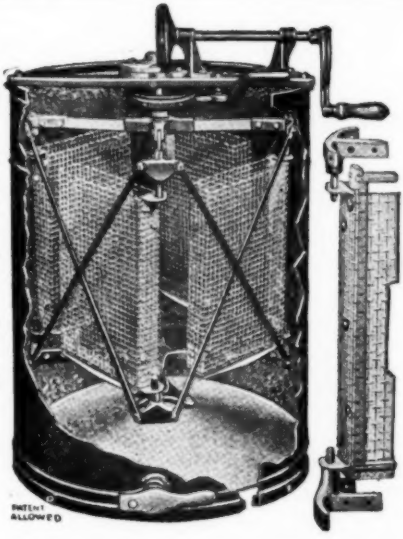
It is priced at $32.00. Shipping weight, 130 lbs.

This is only one of 10 different styles ranging from 2 to 50 frame sizes. Send for printed matter.

**Manufactured by**

**A. G. Woodman Company**

**Grand Rapids, Mich., U. S. A.**



# "Three Thousand Cans Extracted--No Broken Combs"

"You may be interested in knowing that we have extracted approximately 3,000 60-lb. cans of honey with the 8-frame 'LIFETIME' extractor which we purchased from you at the beginning of the honeyflow. At the time the machine arrived, we were anxious to begin extracting and did not take the time to anchor it, other than to connect the extractor to the honey pump with a piece of hose. We operated the extractor that way for ten days, during which time we took off 1,000 60-lb. cans of honey. It is surprising how smoothly the extractor ran, merely set on the cement floor.

"We had a 16-year old boy running the extractor and regardless of weather conditions and the speed at which we extracted, there were no broken combs. We wish to assure you that we are entirely satisfied with our 'LIFETIME' extractor."

(Signed) STUART BRO.,
Jerome, Idaho.

## NEW DENVER BRANCH NOW OPEN

The Denver branch is being opened to better serve the increasing number of customers which we have in the Denver area. The address is 3759 Wazee Street (corner of 38th and Wazee Streets) right at the 38th Street subway and just off highway No. 85. The conduct of our business at Denver will be along the same lines as at our other houses.

## Superior Honey Company, Ogden, Utah

**Branches at Idaho Falls, Idaho; Los Angeles, California and Denver, Col.**

## ←Morrison's Northern→

**Three-banded or Leather-Colored Italians. Our foundation stock comes direct**

**→From Northern Italy←**

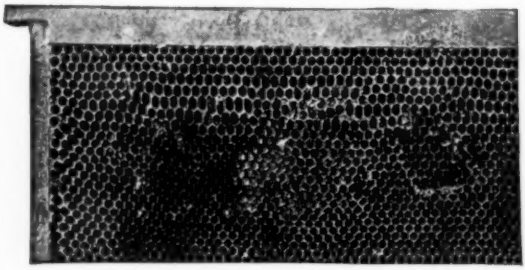
**QUEENS**

**Untested.....50c. Tested.....$1.00. Breeders.....$5.00**

**The Cloverdale Apiaries, Cloverdale, Ohio**

# Beat the Drones

## With Dadant's Crimp-wired Foundation



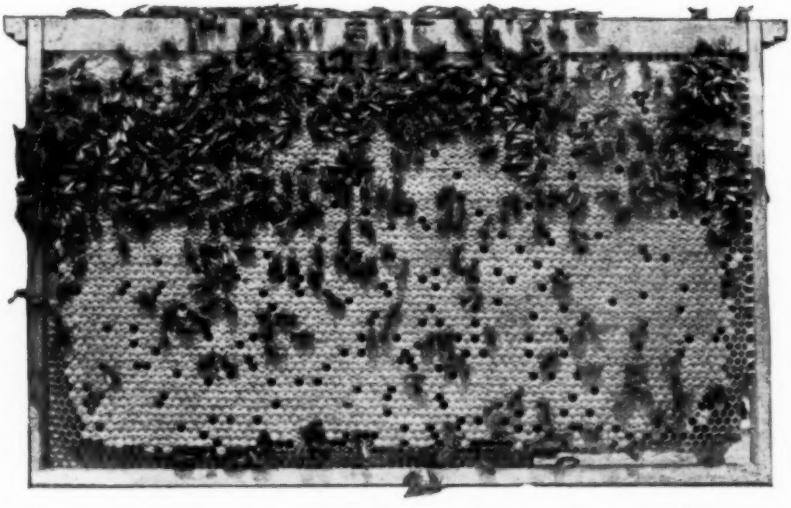
Replace your poorly built combs,—combs with drone cells and stretched cells,—with combs built from Dadant's Crimp-wired Foundation. How much space is there in your combs the queens cannot use? Space that reduces the number of bees at the honeyflow. Combs sagged from the weight of brood and honey; with areas of drone cells; with useless places the bees bridge over with thickened wax; places of no value.

There is no lost space in combs from Dadant's Crimp-wired Foundation. They have so little room for drone cells that the poor fellows have a hard time getting born. Colonies build up quickly from full combs of all worker cells; supers fill quickly. New combs, with 8 or 9 pounds of honey, leave the hive for the extracting room without a sign of slip or sag. They will stand load after load of either brood or honey and will last as long as your combs are in use. You can depend on them.

## DADANT & SONS

**HAMILTON, ILLINOIS**

**Makers of Famous Foundations—Crimp-Wired, Plain, Surplus**



**Beeswax Wanted—We buy at all times. Drop us a card, stating quantity you have to offer.**

Vol. 65
No. 7

Gleanings
in Bee Culture

July
1937

# Beekeeping in the Punjab (India)

**Sardar Singh**

Mr. Sardar Singh, entomologist from the Punjab, India, is spending a year in the U. S. A. He has already taken some work at Cornell University under Dr. E. F. Phillips. About April 1, he started from Ithaca, N. Y., on a tour through the southern states to get a close-up on the package bee and queen business. He is spending some time in Medina and other points before returning to his native land.

Beekeeping is an old indigenous industry in the hilly districts of the Punjab. Honey is produced by old box-hive methods and is mostly consumed locally. Only a small portion of the honey and beeswax finds its way to the plains, Amritsar being the chief market. The honey offered for sale is often an adulterated and fermented product and is crudely packed in empty kerosene oil tins.

The value of beekeeping as a subsidiary industry as well as a commercial proposition is being realized. The recent development of the fruit industry has also created a demand for bees.

### Species of Bees

Three species of honeybees are found in the Punjab, which are suited to different climatic conditions. The Indian bee, **(Apis indica F.)**, is found in the hilly tracts; the little bee, (Apis **florea F.)**, in the plains where in summer the temperature in certain parts of the country may rise to 120° F. or so; and the giant bee, **(Apis dorsata F.)**, remains in sub-mountainous tracts and lower hills and has not been found in the higher mountains.

The Giant or the Rock Bee (Apis **dorsata F.)**: A colony builds a single huge comb on the face of rocks, branches of big trees like the banyan tree **(Ficus bengalensis)**, pipal **(Ficus religiosa)**, silk cotton tree, mango,

A nest built by a species of wasp which may sometimes be as high as 70 or 80 feet and so difficult to fumigate.

etc., and sometimes hanging down from the ceilings of houses. A single tree may harbor up to fifty or more colonies on its branches, which may be termed "Nature's Apiaries in the Air." A single comb may measure up to five or six feet from side to side and two feet or more from top to bottom. The brood portion is one and one-quarter inch thick and the top (honey) portion may be as thick as four inches.

The worker bees are as large as the queen of the Italian, length 16-18 mm., and weigh about 3000 to the pound. There is no difference between the size of the worker or the drone cell, which would be a point of great importance if efforts were made to use this bee in commercial honey production.

The bees are industrious and good gatherers. They have been observed to start their work earlier in the day

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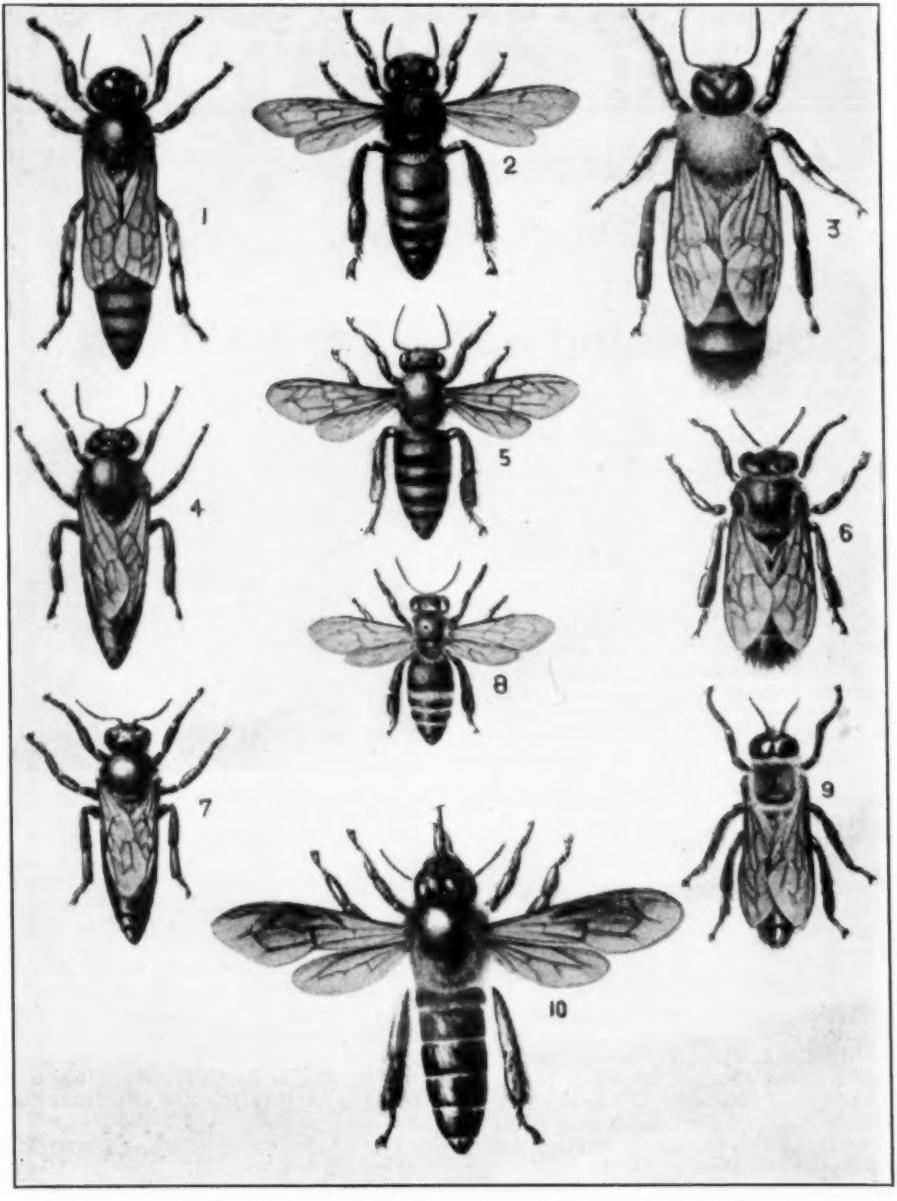


**The Four Species of Honeybees (After Gosh, Pusa Bulletin 46).**

1. Queen.
2. Worker.
3. Drone of Apis mellifica L.
4. Queen.
5. Worker.
6. Drone of Apis indica F.
7. Queen.
8. Worker.
9. Drone of Apis florea F.
10. Worker of Apis dorsata F.

and stop work later in the evening than the **Apis indica** bees. From a single colony up to eighty pounds of honey are sometimes obtained. The bees are ferocious and vicious. Their stings are painful and are recorded to have proved fatal in certain cases. When enraged the bees pursue their victim for long distances and do not easily leave him alone even if he dives into water. Certain professional honey harvesters, however, seem to handle them with impunity and apparently their flesh does not swell much, after being stung.

The colonies migrate from place to place and during migration they produce a characteristic loud sound. Efforts to hive the bee have, so far, been unsuccessful.

The Little Bee **(Apis florea F.):** This bee is much smaller than the Indian bee. The colonies build a single comb, usually in bushes, hedges, hung down from branches of trees, eaves of huts, corners of buildings and in house chimneys. They also make their combs in stacks of cotton-stalks, in empty boxes, etc. The comb is as large as the palm of the hand and sometimes larger. They are not prone to stings, nor is their sting very painful. They are so gentle that sometimes they are called **stingless bees.** They shun captivity and love open life and generally make combs at high and well-lighted places. They are more prone to swarming and also migrate.

The colonies gather very small quantities of honey, a single comb yielding a pound or so. The honey is comparatively thin and is claimed to have high medicinal virtues.

The Indian Bee **(Apis indica F.):** These bees live in cavities of tree trunks in nature but the farmers provide cavities in the walls of their dwellings which are left purposely when they are building their houses. Swarms of bees are also hived in hollowed-out logs as well as in mud receptacles.

A beekeeper ready to transfer an Indian bee colony from a wall. The local hive can be opened from inside the room.

There is some variation in the size of the worker bee and the size of the worker brood cell which they build, according to altitudes. In the Kulu

A part of the government apiary at Nagrota, District Kangra.

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Valley they build five and one-quarter cells to the inch and in the Kangra Valley five and one-half cells to the inch. The plain's variety of the bees found in other parts of India, makes six cells to the inch. Various writers on the Indian bee also indicate that as we go higher into the hills the bees make a larger celled worker brood comb, larger colony strengths are obtained and also greater yields. These are, however, casual observations and require scientific confirmation.

The bees are gentle, do not run on the combs, are subdued by smoke and often can be handled without it. They swarm rather heavily and up to seven swarms may be given from a single colony. Excessive swarming in some cases may be attributed to the small size of the local hive.

Laying workers appear soon after the queen is lost and once the writer caught about thirty laying workers which microscopical examination showed had developed ovaries. The colonies also do not protect themselves well against the wax moth.

The bees are not as industrious as the Giant or the Italian bees. The average yield is eight to ten pounds per colony by the indigenous methods. A yield of thirty-two pounds from a colony was obtained in a Langstroth hive at the government apiary at Nagrota in 1936.

Migration or absconding is common. Robbing among the colonies is rather severe and the problem becomes acute when **Apis dorsata** bees start to rob **Apis indica** colonies, since **Apis dorsata** bees are superior in strength to the **Apis indica** bee.

### Migration and Absconding

As has been indicated above, migration is found in the three species. The **Apis dorsata** bees seem to migrate according to the change of season, attack of wax moths, lack of honeyflow, etc. Migration is quite regular with them. It has been observed that they arrive in the vicinity of Nagrota (3000 ft.), Kangra Valley, at the end of March and early April and go back before the rains, i.e., mid-June, after which time it is difficult to locate even a few **dorsata** bees on the flowers of the blooming plants, while they are being worked upon by the **Apis Indica** bees.

The colonies of the little bee are known to change their abode about twice a year according to season. But they do not go away long distances like the **Apis dorsata** bees.

A log hive. Below, a mud hive.

The absconding is also severe in the **Apis indica** bees. One often finds whole colonies of bees in the air out of the swarming season. Sometimes the cause of this may be apparent, such as starvation, heavy attack of wax moths, trouble with ants, too hot a place, queenlessness or presence of laying workers, but at other times there does not seem to be any apparent reason. The writer has seen in half a dozen cases, colonies with laying queens and one or two frames of brood in all stages, leaving the hive, sometimes to join a swarm passing nearby.

### Enemies of Bees—Bee Diseases

Two species of wax moth, four species of wasp (see page 401), black ants, king crows, bee eaters, lizards are the major bee enemies and are a great handicap to the smooth progress of beekeeping. Fortunately no bee diseases—of brood or adult bees—have so far been recorded and apparently the Punjab seems to be free from them.

### Honey Flora

In hilly places, with comparatively low altitudes, the major honey flow is in April and May, while in the higher hills the September-October flows yield surplus. In the plains the major honey flow is during winter, i.e., November, December and January, mainly from cruciferous plants —rape, etc.

In the Kangra Valley (low hills) the important nectar secreting plants, which are trees, are: 1. Soap nut **(Sapiandus detergens)**, 2. "Tun" **(Cedrella toona)**, 3. "Shisham" **(Dalbergia sissoo, Leguminosae)**. Wild rose which is abundant provides an abundance of pollen.

In the Kulu Valley certain shrubs belonging to the family **Labiatae** give abundant nectar. **Strobelanthes sp., Plectarenthes sp., Polygonum sp.,** also provide nectar. Several types of buckwheat are cultivated in the valley to a small extent.

### Activities of the Agricultural Department

Realizing the importance of the beekeeping industry, the Department of Agriculture of the Punjab has recently established an experimental and demonstration apiary at Nagrota, Kangra Valley (page 403), and a demonstration apiary in the Kulu Valley. Another demonstration apiary in the Murree hills is going to be started shortly. Work has been started with the local Indian bee and modern methods of beekeeping are being practiced. Training in beekeeping is available both at Nagrota and Kulu apiaries.

Ithaca, New York.

**Out beyond where the West begins, where pilfering (a polite term for stealing) is quite prevalent, a beekeeper conceived the idea of erecting a sign reading, "Warning Poison". We hope this has the desired effect on all of the pilferers in that vicinity. It might be worth trying in the East.**

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# Weather Affects Nectar Secretion

E. Oertel

Associate Apiculturist, Southern States Bee Culture Field Laboratory, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture.

## The Honey Crop as Related to the Weather in Central Michigan[1]

Scale-colony records extending over a long period are comparatively rare, although many beekeepers maintain a hive of bees upon a scale during at least part of the active season. Kenoyer[2] has given a general discussion of the effect of weather upon honey production in southwestern Iowa, based upon data for a 29-year period. Such records are of historical interest and they furnish information upon changes in the size of the yearly honey crop and the time of the honey flow.

The records upon which the discussion in this paper are based were obtained from J. N. Harris, of St. Louis, Gratiot County, in central Michigan. According to Mr. Harris, fruit bloom is of value as a source of nectar in some years, but the major honey plants are alsike clover, white clover, sweet clover, and, in some years, basswood. His records show only the net gains in colony weight per day. The weather records used are for Alma, about 3 miles from St. Louis.

The net gains per month for June, July, and August from 1920 to 1932, inclusive, are given in Table 1. The figures show considerable fluctuation from month to month and from year to year. It is necessary to infer, in a study of this kind, that the colony is the same in population and morale from year to year, but such a condition probably never actually exists. Since it is impossible to gauge the abundance of nectar-producing plants each year, this is an unknown factor. Weather conditions are, however, measurable and known; consequently they can be analyzed in conjunction with the monthly gains.

### Time of Honey Flow

The original daily records of net gain show a decided tendency in the last few years for the honey flow to begin later in the season than it did from 1920 to 1926. From 1920 to 1923 small gains were recorded in May (these were so small that they have

[1]A contribution from the Southern States Bee Culture Field Laboratory, Baton Rouge, La., maintained by the Division of Bee Culture, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, in cooperation with Louisiana State University.

[2]Kenoyer, L. A. The weather and honey production. Iowa Agr. Expt. Sta. Bul. 169, 26p., illus. 1917.

Table 1.—Net gains in weight made by a colony of bees at St. Louis, Mich., during June, July, and August each year from 1920 to 1932, inclusive, and monthly percentages of total gains for the year:

| Year | Monthly gains | | | | | | Total |
|---|---|---|---|---|---|---|---|
| | June | | July | | August | | |
| | Lbs. | Percent | Lbs. | Percent | Lbs. | Percent | Lbs. |
| 1920 | 151 | 62 | 91 | 38 | 0 | 0 | 242 |
| 1921 | 108 | 62 | 47.5 | 27 | 18 | 10 | 173.5 |
| 1922 | 77 | 66 | 16 | 14 | 23 | 20 | 116 |
| 1923 | 108 | 87 | 12 | 10 | 4 | 3 | 124 |
| 1924 | 31 | 32 | 56 | 57 | 11 | 11 | 98 |
| 1925 | 57 | 28 | 63 | 31 | 85 | 41 | 205 |
| 1926 | 18.5 | 7 | 151 | 58 | 92 | 35 | 261.5 |
| 1927 | 72.5 | 18 | 232 | 57 | 105 | 25 | 409.5 |
| 1928 | 5 | 2 | 194 | 78 | 49 | 20 | 248 |
| 1929 | 80 | 23 | 247 | 71 | 20 | 6 | 347 |
| 1930 | 44.5 | 21 | 161 | 78 | 2 | 1 | 207.5 |
| 1931 | 39 | 29 | 73 | 54 | 24 | 17 | 136 |
| 1932 | 56 | 15 | 170 | 45 | 153 | 40 | 379 |
| Total | 847.5 | | 1513.5 | | 586 | | 2947 |
| Mean | 65.19 | | 116.42 | | 45.07 | | 226.68 |
| Median | 57 | | 91 | | 23 | | 207.5 |

been disregarded), but the major portion of the crop was gathered in June. Since 1925, gains have begun about June 15 and the major crop has been gathered in July. From 1920 to 1924 the August gains were small or entirely lacking. From 1925 to 1932, except for 1929, 1930, and 1931, August gains were fairly large and gains continued until about the end of the month. The later honey flows are due to the prevalence of white sweet clover.

Since the major honey month in this locality has shifted from June to July, the beekeepers should endeavor to have the peak of brood-rearing come later than it formerly did. The editor of Gleanings in Bee Culture has recognized this change, since he has advocated for several years the division of strong colonies of bees in the spring. Gordon P. Dillon, of Adrian, Michigan, has informed the writer that colonies that reach the peak of their strength in mid-June do not perform so well as those that reach their peak later. He believes that the colonies should reach their greatest strength late in June or early in July. Prolific queens are desirable so that the rate of brood-rearing will not drop rapidly during a long honey flow.

### Size of Crop

The need for an abundance of ripening and storage room for the nectar should be emphasized. Net gains of from 10 to 20 pounds per day were common and occasionally a net gain of 30 pounds was obtained by the scale colony. Gross daily gains were undoubtedly much higher. The beekeeper must also supply ample comb space so that the incoming nectar will not force the queen to slacken her rate of egg laying.

### Weather Variations

The variations of rainfall and average temperature above and below normal at Alma, Michigan, during May, June, July, and August, 1920 to 1932, inclusive, are shown in Table 2.

During the 13-year period the average temperature was above normal 7 times in June, 6 times in July, and 7 times in August; and was normal once in June, twice in July, and twice in August. The average temperature in May was above normal 4 times and normal once. For the 4-months' period the total temperature deviations were above normal 7 times, below normal 6 times.

The rainfall was above normal 4

Table 2.—Yearly gains with temperature and rainfall deviations from normal, 1920 to 1932, inclusive, for Gratiot Co., Mich.

| Year | Total Gains | Temperature deviations from normal | | | | Rain deviations from normal | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | | May | June | July | August | Total | May | June | July | August | Total | |
| | lbs. | °F. | °F. | °F. | °F. | °F. | In. | In. | In. | In. | In. | |
| 1924 | 98. | —6. | —1.5 | —2. | —.5 | —10. | —.25 | —1.25 | +.5 | +1.5 | +.5 | Abnormal May temperature. |
| 1922 | 116. | +6. | +2.75 | —.5 | +2.5 | +10.75 | —.75 | —.25 | —.15 | —1.25 | —2.40 | Abnormal May temperature. |
| 1923 | 124. | —1.5 | ++4.5 | +1. | 0. | +4. | +2. | —1.25 | +.5 | +1.5 | +2.75 | |
| 1931 | 136. | —.5 | ++3.5 | +5. | +3. | ++11. | —1.25 | —.5 | —.5 | —2. | —4.25 | Tem. above nor.; rain deficiency. |
| 1921 | 173.5 | +4. | ++5. | +9. | +3. | ++21. | —3.25 | +1.75 | +.75 | +2.25 | 0. | Extreme temperature deviation. |
| 1925 | 205. | —3.5 | ++3.75 | —.5 | +1.75 | +1.5 | —3. | —2. | +1.25 | +.75 | —3. | |
| 1930* | 207.5 | +2.25 | ++2.5 | +2.5 | +2.75 | ++10. | —1.5 | —1. | —2.75 | —2. | —7.25 | Extreme rain deficiency. |
| 1920 | 242. | —2.5 | 0. | —4. | —2. | —8.5 | —1.75 | +.5 | +.25 | +.5 | —1. | |
| 1928 | 248. | 0. | —5. | 0. | 0. | —5. | —.5 | +4.5 | —.5 | +3. | +6.50 | Greatest excess rain. |
| 1926 | 261.5 | —1.25 | —5. | 0. | +1.5 | —4.75 | —.5 | —.25 | —1.5 | —1.25 | —3.50 | |
| 1929 | 347. | —2.25 | —2.5 | +1.5 | —1. | —4.25 | +.25 | +.25 | —1.75 | —2.25 | —3.50 | |
| 1932 | 379. | +2.5 | +3.25 | +1.75 | +3.75 | +11.25 | —.75 | —1.25 | +1.5 | +1. | +.50 | Temperature above normal. |
| 1927 | 409.5 | —1.75 | —4. | —1. | —3.5 | —10.25 | +1.5 | —2. | —.5 | —2.5 | —3.5 | Temperature below normal. |

*Median crop year.

times in June, 4 times in July, and 7 times in August. There was no "normal" rainfall in these three months during the 13-year period. The rainfall in May was above normal 3 times and below normal 10 times. For the 4-months' period the total rainfall deviations were above normal 4 times, below normal 8 times, and normal once.

The weather records for 1921 in Michigan contain a notation that low temperatures in May had damaged clover plants. The June honey crop in that year was well above the median. The average temperature for May in 1924 and 1925 was considerably below normal. The June crops and the total crops for the same years were small. If the major portion of the honey crop is obtained in July or August, low temperatures in the preceding months, if the vegetation is not killed, are not likely to be particularly injurious. There seemed to be no close relationship between the size of the honey crop of one month and the average temperature of the preceding months.

In the following discussion only the total gains for each season, with the total temperature and rainfall deviations from normal for May, June, July, and August, will be considered. A detailed discussion of each month's gain with its temperature and rainfall variation becomes confusing, but if any reader wishes to make such a detailed study it is possible to do so by means of the data given in Table 2.

In 5 of the 6 years with a below-median crop the temperature deviations show a positive deviation from normal. In 5 of the 6 years having an above-median crop the temperature deviations show a negative deviation from normal. This clearly indicates that there was a pronounced tendency for the larger gains to be associated with the temperature deviations below normal.

In 4 of the 6 years with a below-median crop the rainfall is normal or below normal. In 4 of the 6 years with an above-median crop the rainfall is also below normal. This indicates that the deviation of rainfall from normal is not associated with a similar deviation of the honey crop. Probably the occurrence of rainfall during the day or night and its distribution during the growing season is of as much importance as the total amount during the active beekeeping season.

Kenoyer[2] says: "A rainy May scarcely fails to precede a good honey season." In Gratiot County the rainfall in May was above normal three times (in 1923, 1929, and 1927) and in two of these years (1929 and 1927) the crop was above the median, due chiefly to the size of the July crop. There has been a pronounced tendency for the May, June, and July rainfalls to be below normal from 1920 to 1932.

The editor of Gleanings in Bee Culture[3] states that in a wet May colonies are usually extra strong provided they have had abundant stores with which to rear brood. He believes that this is because the bees are unable to fly much of the time and their energy is thus conserved for later use. It is possible that the rainfall may not actually be above normal, but may seem to be so because of many light, slow, drizzling showers.

**Summary**

During the 13-year period from 1920 to 1932, inclusive, the major honey-producing period in Gratiot County shifted from June to July. From 1926 to 1932, inclusive, the beginning of the surplus honey flow was about two weeks later than it was from 1920 to 1925. Five of the six largest honey crops were obtained when the temperature deviations were below normal and five of the six smallest crops were obtained when the temperature deviations were above normal.

Louisiana.

[The data presented in the above article refers to the years, 1920 to 1932, inclusive. One of the interesting points brought out is that during those years the main honey flow shifted from June into July. If we are not mistaken, there has been a further shift into early August, and this is due largely to the prevalence of alfalfa, especially during the last five years. The Root Company has commercial apiaries in western Ohio, and the conditions that obtain in western Ohio are quite similar, in many respects, to conditions that prevail in southern Michigan. Last year in western Ohio our bees stored a considerable amount of surplus honey from alfalfa and late sweet clover during the month of August.—Editor.]

[2]Kenoyer, L. A. Op. cit.

[3]The effect of cool wet weather in May. Gleanings in Bee Culture 52:426. 1924.

# Inter-mountain Bee Culture Laboratory

E. R. ROOT

## Improvements in Methods for Studying Bacillus Larvae Have Been Made Since the Laboratory Was Established

(Continued from June)

On July 1, 1936, an appropriation was made available for a study of the possibility of developing and perpetuating a strain of bees resistant to A. F. B. with Dr. Sturtevant in charge and assisted at this laboratory by Dr. A. W. Woodrow. This project is being carried on cooperatively by the various laboratories of the Bee Culture Division of the Bureau of Entomology and Plant Quarantine and the State Experiment Stations of Wyoming, Iowa, Wisconsin, and Texas.

### Flight Range of Bees

Dr. J. E. Eckert, formerly connected with the laboratory, started investigations in 1927 to 1930 on the flight range of bees as affecting production, and these were continued by Drs. Sturtevant and Farrar. The results of Dr. Eckert's work showed that bees will forage when forced to, a distance of at least 8.5 miles in open unirrigated country typical of the mountain states regions. Colonies may gain in weight under some conditions a distance of five miles from a nectar producing region, and colonies may produce very creditable crops when located at least 1.5 to 2.0 miles from their source of nectar, as compared with colonies located within a nectar source. However, tests carried out by Drs. Sturtevant and Farrar during the seasons of 1931 and 1932 under commercial apiary conditions (apiaries of 30 colonies each) indicated that apiaries surrounded by a nectar producing territory have an advantage in yields over those located 1.5 miles outside the productive territory. During the summer of 1930, Dr. Eckert also made a study of the manner in which bees distribute themselves with relation to the available nectar sources when their apiary is located within the nectar producing region. It was found that often bees would fly as far as 2.75 miles for nectar and pollen in the direction of the major lane of flight and neglect other fields of the same plant in other directions and located nearer. When several apiaries were located in fairly close proximity to each other the bees from different apiaries seemingly did not "trespass" on each other's fields because of the tendency to orient themselves in only one or two directions from any particular location.

### Various Methods of Wintering Bees in the Inter-mountain Regions

One of the early projects started by this laboratory begun in 1927-1928 by Dr. Eckert, was a comparative study of various methods of wintering colonies of bees as practiced in the Intermountain region. Groups of colonies were wintered without protection, with tar building paper protection, in straw packing cases, and, at Lander, Wyoming, in a concrete bee cellar, in order to determine the relative merits of the four methods largely used in this region. In order to secure results more comparable with conditions that were more average for the entire region than was afforded by the long and often severe winters at Laramie, Wyoming, similar experiments also were conducted at Fromberg, Montana, and Lander, Wyoming, during the winter of 1927-1928, and at Laramie, Wyoming, and Fort Collins, Colorado, during the winters of 1927-1928, 1928-1929, and 1929-1930, and at Laramie, Wyoming, only during 1930-1931, 1931-1932. There were some variations in results at these various locations, one method seemingly giving slightly better results in one place while some other method apparently was better elsewhere. However, the results of observations up to the end of 1930-1931 showed no sufficiently significant variations from which definite conclusions could be drawn.

Further studies on wintering I find have been carried on by Dr. Farrar since 1931-1932, particularly as related to population changes, brood-rearing, granulated stores and winter cluster activities, the results of which have developed new concepts of a colony's winter requirements. The most important results of these later

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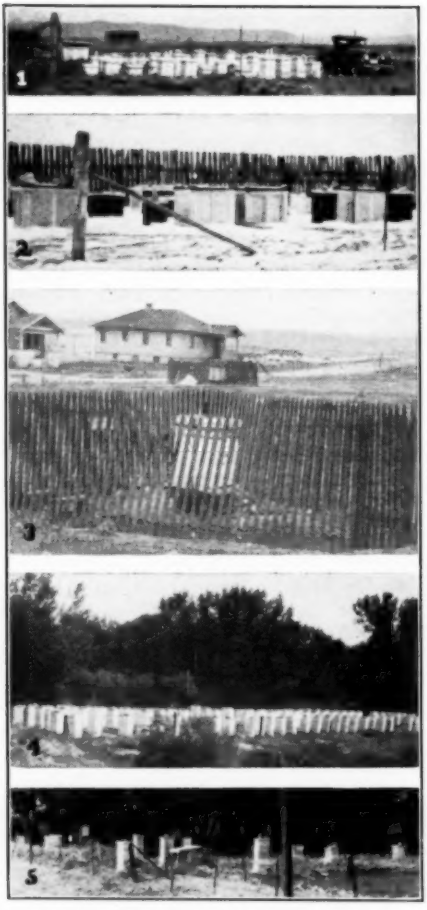

Fig. 1—Hatch Ranch apiary without windbreak.
Fig. 2—Hatch Ranch apiary winter protection studies, winter 1931. Showing effect of windbreak and snow fence.
Fig. 3—Colonies individually isolated to prevent drifting. Colony development studies.
Fig. 4—Cooperative commercial bee yard in Colorado. 110 packages established in 1936 for supersedure studies.
Fig. 5—Corthell yard. Experimental colonies semi-isolated showing windbreak of trees.

observations have been the observed relation between reserve pollen stores in the fall and the surviving populations in the spring. Since 1933 all colonies have been wintered without protection of any kind other than a suitable windbreak.

### Importance of Pollen Reserves for Good Wintering and Springing of Bees

Observations and tests show that brood-rearing during the winter is

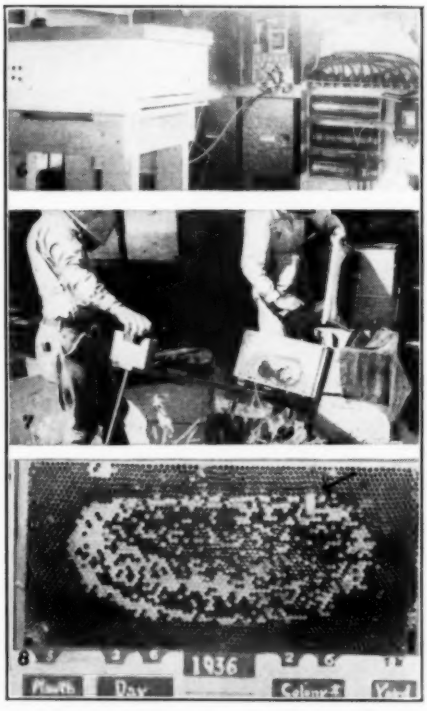


Fig. 6—Electrical equipment used in flight recording project.
Fig. 7—Photographing brood and removing bees from equipment to obtain their weight. Colony development studies.
Fig. 8—Brood comb showing typical supersedure.

not abnormal. Since pollen is essential for brood-rearing, studies of pollen reserves have been made. The results show that the surviving populations of over-wintered colonies are closely correlated with the amount of reserve pollen available in the fall. It has been found that, for the Intermountain Region, colonies should have from 300 to 600 or more square inches of pollen for most successful wintering. The size of this reserve is determined by the time and quantity of pollen available in the spring. Where generous pollen reserves are available, the winter mortality of bees will be made up by young bees emerging between February and the beginning of the active season. These young bees have the vitality necessary for rapid colony development once the active season gets underway. Ample pollen reserves appear to be one of the most reliable checks against spring dwindling.

These findings agree substantially with some work reported by Chas. A. Reese, State bee inspector of Ohio.

The amount of reserve pollen stored by different colonies in the same location varies over wide limits. Local conditions affected by season and abundance of pollen producing plants materially affect pollen reserves in different yards. Observations based on pollen surveys made in commercial apiaries in Wyoming, Colorado, and Nebraska verify the experimental results.

### Granulated Honey not a Bar to Good Wintering

Three colonies wintered in 1932-1933 with honey stores carried over from previous seasons and completely granulated survived in normal condition. The winter in question was normal for the Laramie region. The test indicates that stores which quickly granulate, typical of alfalfa and sweet clover honeys found in the mountain states region, contrary to previous ideas, are not directly responsible for winter loss of colonies.

### Seasonal Colony Population

Colony development studies and related problems are under the direction of Dr. C. L. Farrar who has been assisted by Dr. A. W. Woodrow, Mr. John D. Hitchcock, and temporary employees.

Studies of seasonal changes in colony characteristics both of colonies individually isolated to prevent drifting and somewhat more closely grouped colonies, form the basis of this work. Population estimates based upon weight of bees and sample bee counts are made periodically at 12 or 14 day intervals throughout the active season. The brood in each colony is photographed to determine the number of young bees expected to emerge between population periods. Between 30,000 and 40,000 brood photographic negatives have been made since 1933.

### Amount of Brood to Colony Strength

Results show a high negative correlation of straight line character between the colony population and the amount of sealed brood present. Typically, a colony having 10,000 bees will have approximately 80 percent as many cells of sealed brood as bees, and this percentage relationship decreases 10 to 14 percent for each increase of 10,000 bees throughout the normal population range, i. e., 10,000 to 60,000 bees. While the large colony has more brood, the smaller colony increases at a more rapid rate.

### Colony Population to Amount of Honey Produced

The results also show a high positive correlation of straight line character between the colony population and the amount of honey produced over any short production period of two weeks or less. The production per unit of bees increases as the population increases throughout the normal population range. That is to say, one colony having the maximum strength of 60,000 bees will produce more honey than two colonies with 30,000 bees over a short period unaffected by population changes of the smaller colonies resulting from their more intensive brood-rearing activities.

### Two-Queen Colonies and Honey Production

A method of increasing honey production by the use of two-queen colonies has been investigated and found to be practical. The foregoing three principles of bee behavior apply, namely: 60,000 bees is the maximum population for a single-queen colony and the addition of a second queen to the working force of a strong colony makes possible the development of more brood until the population approximately doubles that of the normal single-queen colony. Preliminary results indicate that the production per unit of bees continues to increase in the same relative degree beyond the normal population range to include the extra population obtained by the use of two queens. This is true provided sufficient time has elapsed to permit the bees emerging from the brood of the second queen to reach an age favorable for field activity. Pollen reserves make possible the wintering of colonies sufficiently strong prior to the honey flow to permit the introduction of a second queen in building extra populous colonies.

### Requeening by the Two-queen Plan

The removal of the over-wintered queen four to six weeks prior to the end of the honey flow not only leaves the colony with a young queen, but the excess of young bees for the amount of brood reared during the period immediately following increases the accumulation of pollen reserves that are essential for successful wintering.

XUM

### Winter and Summer Mortality of Bees

During the summer of 1932 over 225,000 newly emerged bees were marked with distinguishing paints for the purpose of studying the duration of life of bees both during the active season and of those making up the winter clusters. Daily mortality studies were made during the winter and the position of marked bees in the winter clusters determined by killing certain colonies with cyanide gas when they were tightly clustered under low temperatures. Normal winter mortality does not exceed 10 to 15 percent even in unprotected colonies during the broodless period. The progressive mortality during the winter period is not proportional to the numerical age of the bees making up the winter cluster, but is proportional to the numbers of bees representing each age group covering the last five to six weeks of emergence prior to the cessation of brood-rearing. This mortality appears to be due to chilling of bees on the surface of the cluster as it contracts under declining external temperatures rather than the physiologically wearing out of bees.

### Supersedure of Queens by Colonies and Package Bees

An appropriation was made available for the Southern States Bee Culture Laboratory, Baton Rouge, Louisiana, July 1, 1935. This problem is one which touches on the production of queens and on their use in northern honey producing regions. The problems relating to the production of package bees and queens were put in charge of Dr. Warren Whitcomb, Jr., (see page 464, Gleanings, last year) and his staff at Baton Rouge Laboratory, and Dr. C. L. Farrar was assigned the problem of studying the behavior of southern queens and packages and the supersedure of queens under northern honey producing conditions. The Experiment Stations of Iowa and Kansas, and several commercial beekeepers are cooperating on the queen testing.

In 1936 approximately 1,000 packages were under observation in Wyoming, Colorado, Nebraska, Iowa, and Kansas. Two hundred and ten southern queens were introduced into commercial colonies in the fall of 1935 and 240 in the fall of 1936. Results out of this work have not yet been determined, but two phases stand out: Quality of queens, and the time required to get package queens laying influences package colony development.

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## APIARIST CONDUCTS W. P. A. CLASSES FOR PENNSYLVANIA GROUPS

When William E. Davis lost his job and his home two years ago, he had a wife, nine children and 250,000 bees to worry about. But that very handicap became an advantage and as a result he is now the official "B-Man" of the Works Progress Administration in Norristown. He not only still has the 250,000 honey bees, but 200,000 more, which he carts all over the country in an old truck.

Davis teaches bee culture to 16 Montgomery County farm groups, school clubs, fruit growers' associations (bees are good for orchard pollination), a bee club at the Eastern Penitentiary at Graterford, and to anyone else who will listen.

"Everything about the bee," Davis says, "is useful, except it's buzz."

About a year ago the Education and Recreation Division of the W. P. A. took Davis from the relief rolls and started paying him for demonstrating bee culture.

# A Wax Tank That Is Different

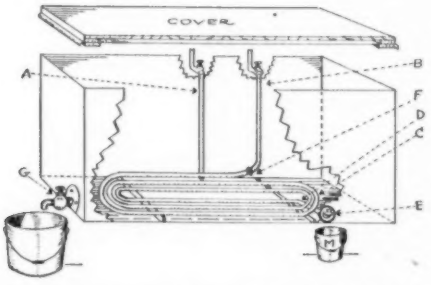
Clyde Wheeler

## It Does Away With a Messy Job and Gets a Maximum Amount of Wax

Rendering wax brings to mind a picture of a rather stubborn, messy and somewhat dangerous job. Yet, when we consider the value of wax and the amount available, it is only good business to give it some attention. During the past season we constructed and used the tank illustrated. This, for us, has proved quite efficient, has many uses and does away with many of the "eye-sores" of wax rendering. We have a small high-pressure boiler that supplies steam and hot water for the extracting room. This boiler also furnishes the steam needed to operate our wax tank.

### Construction

This tank is an ordinary stock tank about four feet long, two feet wide and two feet high. "A" and "B" are ¾-inch steam pipes, which enter the




back of the tank near the top. Each is equipped with a globe valve, as shown. The coil "C" is made of some twenty-five feet of ½-inch copper water pipe. It is connected with "B" and is supported about one inch above the bottom of the tank. In forming this coil it is important to keep the turns of the coil at least one inch apart, as they will be plugged by slumgum if placed close together. The end of the pipe "D" to "E" passes out underneath the coil to allow for drainage. The coil is equipped with a union at "F" and a gasket and locknut at "E", so that the coil can be easily turned up on edge or removed. The steam pipe "A" runs down the inside and back of the tank to a point about one inch from the bottom. The honey and wax outlet "G" is a one-inch pipe with a globe valve and placed as low as possible in the tank. The bucket "M" catches the water and steam from the coil. The cover is made of galvanized iron reinforced with wood. A strip of wood is fitted on the underside so that when the cover is in place, the wood hugs the tank and makes a fairly tight joint.

### Melting Cappings

During the honey harvest we extract about two tons of honey a day. Our screen bottomed uncapping tank is large enough to hold the day's cappings. At quitting time the cappings are thoroughly forked over and left to drain overnight. In the morning these cappings are nearly as dry as when run through the extractor. All of these cappings are now forked into the wax tank directly onto the coil, the cover put on and a little steam turned into the coil through "B" ("A" of course being closed). Now, after a few minutes work our uncapping tank is empty and we have entirely done away with the time, fuss and bother of running the cappings through the extractor. By night the cappings in the tank have melted and the wax and honey have run out into the tubs where they are left to cool. All the attention required has been to change the tubs once or twice and perhaps adjust the steam. Even though the tank is tilted toward the outlet, the slumgum will not run out with the honey and wax, so two or three times a week we have to raise the coil and remove this slumgum. The less we mix honey with hot wax and slumgum the lighter the honey will be in color. Cappings, whether thoroughly drained or dried in the extractor, will when melted be about half honey. With this outfit we get all the honey from the cappings. Only that part of the honey which can not be drained

XUM

from the cappings is darkened. This part, about three per cent of the total crop, is a part that a good many beekeepers don't get.

### Melting Combs

We always have both extracting and brood combs that get damaged or have acquired too much drone comb. To render these, we place a window screen on the coil and stand these combs about on the screen. The cover is put on and the steam turned through "A" which discharges the steam underneath the screen. In a short time the frames can be shaken out and cleaned. Queen excluders, covers, bottom-boards, equipment of most any kind, can be placed in the tank and not only cleaned easily, but the wax saved as well. As we can maintain a temperature of 212 degrees in this tank, diseased equipment can be sterilized. This equipment is cooked for one hour at that temperature. We have been quite surprised at the amount of wax that can be saved, when there is a convenient way to take care of it. The slumgum which is caught on the screen is stirred a bit and cooked for a while to allow the free wax to drain off, then packed in boxes. As we live near Medina, we let the Root Company go after the balance of the wax. With their equipment they get about 11½ pounds of wax out of 100 pounds of slumgum, the rendering charge being about 3⅓ cents per pound of wax. This is more efficient and cheaper than trying to press it ourselves.

To strain and recake the wax from either the cappings or combs, we clean the tank, put in a large bag made of muslin, place the wax inside the bag, put on the cover, turn the steam through "A", and the wax will melt, strain, and run out the outlet at the rate of about 100 pounds per hour. The wax now will be much lighter in color. That from the cappings will be a pale yellow—a very desirable grade of wax. That from the brood combs seems to be light enough to pass the "cash register" as light wax.

This tank has done its own particular work so well that when we pass by it we feel like taking off our hats.

Ohio.

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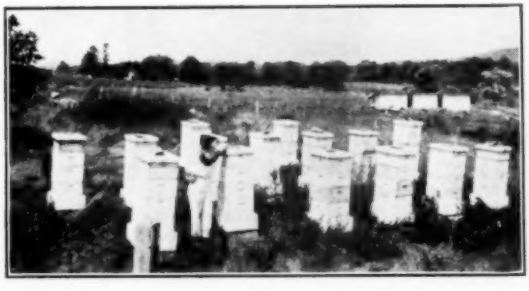
# A Profitable Venture

**Arthur O. Heinrich**

## Populous Colonies in Two-Story Brood Chamber Hives Pile Up a Big Crop



Fifteen of my colonies on the Parliman farm. This picture was taken near the end of the honey flow. The crop for the season was 2855 pounds.

Early in the spring of 1934 I entered into a partnership with a beekeeper in Poughkeepsie, N. Y., and agreed with him to move some of my bees from Baldwin, L. I., to Dutchess County. In the early part of May, 1934, I received permission from the bee inspector to move my bees with the understanding that I notify him when they were located so that he could inspect them there. On May 20 I loaded 15 colonies of bees, all in two-story ten-frame hives, two extra supers of eight extracting combs each, a "Cowan" two-frame reversible extractor, an uncapping can, a 90-

XUM

gallon honey tank, hive stands, excluders, etc., on a one and one-half ton Chevrolet truck and transported the lot to the Parliman farm in Dutchess County, some ten miles from Poughkeepsie, N. Y. We started at two o'clock in the morning, and although some of the hives were so strong in bees that it was necessary to put a screen over the top, we had no loss of bees and experienced no trouble on the hundred-mile trip. We arrived in the bee yard at about 6 a. m.

On May 31, I visited this yard and found bees were bringing in nectar at a great rate, some hives having as much as 20 to 30 pounds in the upper brood chamber. As the fruit bloom was well under way, we put a super of extracting combs on each hive.

### More Supers Added

At the time of inspection, June 4, our State Inspector A. C. Gould told me they were the strongest colonies he had seen up to that time in the state. Before leaving for home I put another super of extracting combs on each hive as nectar was coming in quite fast. This made a total of four hive bodies for each hive, as colonies were in two-story brood chambers and each had two supers of extracting combs.

A short time after the bees were placed on Mr. Parliman's farm my partner visited the yard bringing with him an old beekeeper, a student of the old methods of beekeeping, who, after looking over the yard and noting the large number of bees made the following remark; "Your partner must be crazy. He has too many bees here." Mr. McCourt asked "Do you mean too many hives here in one place?" "No", said the old beekeeper, "he has too many bees in the hives. He should divide and make two hives of each. Why look, the air is full of bees, the ground is full of bees and the hives are full of bees, they will eat up all the honey they can make."

On July 15 my partner called me on the telephone to tell me that the hives were so full of honey the bees had no more room in which to store nectar so on the 17th I took twelve more supers of extracting combs up to La Grangeville and put them onto the hives which needed them most.

I next visited the bees on August 25 and 26 to extract the summer crop of honey. After inspection, Mr. Joyce, the county inspector, my partner and I took off two supers from each hive except No. 7 from which we took three. This left one remaining super per hive partly filled with honey. In all we extracted 1,713½ pounds of light amber honey of very fine flavor.

### Honey Extracted and Supers Returned to Hives

The supers were again returned to the hives and on September 28 a visit was made to the yard and it was found that the supers were again well filled with a good flow of nectar still on from aster, goldenrod and other fall flowers.

October 28, I made a trip to my partner's home in Poughkeepsie to help him extract the fall honey of which there was 1,141½ pounds, making a total of 2,855 pounds from 15 colonies for the season, an average of about 190 pounds per colony, which I understand is the highest colony average for the county. Hive No. 7 produced 307 pounds and throughout the season was the best colony in the yard. My partner saw his friend the old beekeeper just after we had extracted the last of the honey and he wanted to know how we made out with our bees. On being told the amount of honey produced he said "Well, you should have gotten a lot of honey from those hives, you sure had bees enough in them."

### The Final Visit to the Apiary

On November 11, I made the last visit for the season to pack the bees away for the winter. We set them in pairs, right close together, the lower hive double-walled and the upper single-walled, put a piece of slater's felt paper around each, held in place with wall lath nailed to the hive. Hive stands were filled with planer shavings and another piece of paper formed a roof to shed snow and water, the whole held in place with string. This is the method used and advocated by Prof. Rea of Cornell University at Ithaca, New York. We put a wind break of corn stalks around them and so left them for winter. I think the results obtained from these hives show the value of a two story brood chamber of 20 combs and proves that large colonies of bees will store a large crop of honey whereas the average or small colonies will produce only a small to fair crop. Special attention is called to No. 7 hive which produced 307 pounds as this colony throughout the season had by far the greatest number of bees at all times.

New York.

XUM

# A Convenient Apiary House

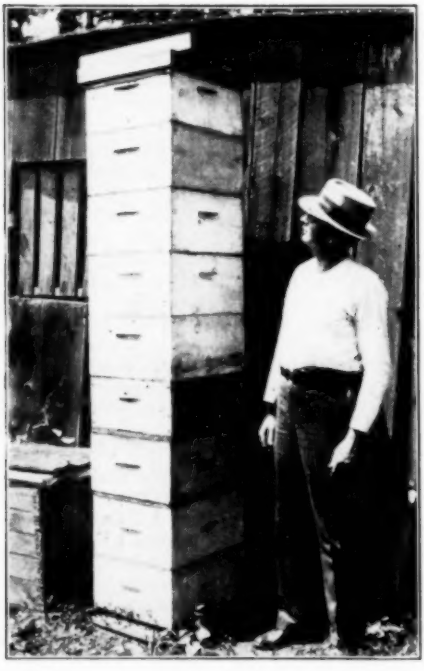
Warren A. Munro

## Built to Handle Large Crops at the Minimum of Expense

Our apiary building was new in 1936. It is 42x50 feet and has three floors. The basement is 8 feet in the ground, the ceiling being 9 feet high. The walls and floor are concrete. Our honey storage tanks and steam boiler are in the basement. We can drive right into this basement with our truck.

The walls of the main floor are built of red structural tile. This makes a wall 8 inches thick and with three air spaces. It is surprisingly frost resistant. The ceilings are over 10 feet high. We have two doors 9 feet high at either end of the building to admit the truck.

Upper picture shows front of honey house with two large doors to admit truck. Lower view is back of the honey house. Trucks are also admitted to basement.



This colony was taken out of a hollow tree on Dec. 6, 1930. In 1931 this colony produced 478 pounds of extracted honey, actual weight. This picture was taken July 14, 1931. Another super was added and filled solid after that date. Honey flow lasted 5 weeks, and all white honey.

There is a large attic which is very useful for storage of articles not used very much. The whole building is bee and mouse proof, has 22 large windows as well as those in the 3 large doors.

The building is serviced with electric power and lights, natural gas, running water under pressure, and steam from a 13-horse-power boiler.

The basement is not a full basement but is 25x42 feet with a wing running under the center of the other half, this wing being 12 feet wide by 24 feet long by 7 feet high. This part is roofed with concrete, reinforced with ½ inch rods and supported with heavy bridge iron. The ceiling of this cellar part is over 2 feet below the reinforced concrete floor above, on which we pile our full supers. At the start of extracting the past season we had about 80 tons weight on this floor. I am wintering bees in this underground section of the cellar. The

temperature is very uniform regardless of outside temperature variations.

The past season we had 2000 full Langstroth supers in the building at commencement of extracting. We extracted 3600 supers all told for a crop of 180,000 pounds light honey from 850 colonies. It took two men 27 days to do the extracting and another man to can up the honey, take care of the wet combs, etc. Practically all of this honey was shipped to the British market.

I started beekeeping in 1913 as a helper in the apiaries of the late R. F. Holtermann of Brantford. The following year, 1914, I bought about 50 colonies but that season was practically a complete failure for honey production. Then followed four fairly good years, then a complete failure in 1919. Since then we have had very good crops, at least no complete failures.

Ontario.

Part of one apiary taken near the close of the honey flow.

## HONEY JELLY

**Mrs. Benjamin Nielsen**

Mothers who object to honey for very young children should h:artily approve of honey jelly. It has the original, destinctive honey flavor, minus the stickiness and that objectional tendency to run. No other jelly is so easily made. Because it contains no pectin of its own this substance must be added to make the honey jell.

In making honey jelly use a standard size, 8-ounce measuring cup and be very careful that measurements are absolutely accurate. You will need: Two and one-half cups of honey, one-half cup of water and one-half cup of liquid pectin.

Combine the honey and water. Bring just to the boiling point, heating very slowly to prevent scorching. Remove from fire and add the pectin slowly, stirring constantly. Pour at once into clean, freshly sterilized jelly glasses. Paraffin while still hot and again when thoroughly cold.

The cubes of sparkling, quivering honey jelly add a note of interest and a delightfully different flavor to ordinary fruit salads. Try adding a few drops of red or green liquid vegetable coloring to all or part of the jelly just before pouring it into the glasses. Allow to jell firmly, turn out of the glass, cut into one-third to one-half inch slices and then mark into cubes. Use them in recipes calling for ordinary jelly cubes, maraschino or minted cherries.

The next time you entertain or are called upon for a donation for a church dinner, use honey jelly cubes in your fruit salads (or perhaps just as an attractive garnish atop whipped cream) and be prepared to give the recipe—for it surely will be called for. And it will be excellent advertising for honey. Homemakers are ever alert for new ideas which will add new flavors to old favorites or dress up the ordinary old standbys. Honey jelly cubes meet both requirements.

Nebraska.

Honey jelly cubes add color and interest to ordinary dishes.

XUM

# From the Field of Experience

## MANIPULATING SKYSCRAPER COLONIES

**Clarence J. Tontz**

When the honey flow is nearing the end and full-depth supers are stacked up from five to seven high; when the colonies are at their strongest peak and the bees their crossest, and the beekeeper is going through them for f.b, it is then that he is interested in arousing the least resistance from the inhabitants of these frowning castles.

We found the following method satisfactory: Several strong puffs of smoke were blown into the entrance, driving part of the bees upward. The cover is removed and the bees given a little smoke to quiet them. The surplus supers of honey are stacked up on the ground with the inverted cover as a base. Now, the two brood chambers remain. More smoke is blown into the entrance. The majority of bees are now in the upper chamber. It is removed, placed on the stack, and covered up. Now, the bottom chamber is examined without an interference of milling bees. This done, the second chamber is placed back on the bottom one and the bees driven down with smoke. It is then examined freely.

Perhaps driving the bees from one super to another might appear that they are getting too much smoke for their own good. But in the other method of examining the supers as they come, with no driving of the bees, we found that in the end bees required more smoke, being more vicious, and greatly interfered in close examination of the combs. Also, when too much smoke is used and the colony is in a state of disorder too long there is danger of the combs melting down, especially when a colony is in the process of ripening two or three hundred pounds of honey and the thermometer stands at 115 degrees in the shade.

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## QUALITY OF SWARM AND SUPERSEDURE QUEENS

**C. M. Isaacson**

I always file back numbers of Gleanings and occasionally look them over when I have time. It is interesting to note the many good articles and among the leaders are those by Allen Latham.

One such in the June, 1934, issue, entitled "Factors Affecting Queen Quality" is especially good for it moves me to decidedly disagree with parts of it. And, after all, that is one of the best functions of a well written article—to bring out differences of opinion and cause people to think for

Here are shown two of Taylor's employees of last summer inspecting skyscraper colonies for f.b. In the foreground is F. N. Somerford Jr. whose home is at Navasota, Texas with Roy Weaver. In the background is Louis Hinkleman, resident of Harlan, Iowa. The apiary shown does not belong to Taylor, but is under his management. (Mr. Taylor's management was also referred to on page 351, June issue.)

themselves, as Mr. Latham says in substance in this same article.

My main point of difference is his assumption (if I understand it rightly) that natural swarm and supersedure queens are with few exceptions, of **uniformly** low quality. I may be mistaken but I infer from his article that he believes practically none of these queens are good. If he means that the average is low when **every cell** is used, then, of course, we must agree with him. But what reasonably intelligent beekeeper would use every cell and the queens resulting? Does Mr. Latham himself use every cell produced under all conditions in his commercial rearing operations—and ship or use every queen resulting? I think that he does no such thing but is rather careful in his selection of the queens he uses. He says in his article (of the swarm cells) that "the first few cups are well cared for and they will normally produce excellent queens". These "first few cups" compose practically all if not all the ones Nature or a beekeeper would use—assuredly not ten, as Mr. Latham used in his experiment. The later constructed cells are poorly cared for and seldom used.

As to his argument that the queen is "in a high state of vitality and fecundity" for the first few eggs only, I can not agree that the two go hand-in-hand. A careful breeder of high grade poultry never "forces" his breeding flock for fear of low hatchability and vitality in the resulting eggs. While, of course, a queen bee is differently constituted, I see no reason to believe poor queens will develop simply because the mother is not laying heavily at the time. Every beekeeper has seen excellent queens develop from the eggs of a queen on her "last legs" as to laying.

Another fact one can and should bear in mind is that bees differ greatly in their ability to care for and rear queens. Some colonies will feed many larvae lavishly and cover them warmly at the same time and under the same conditions that others will care for them very poorly. I imagine queen breeders recognize this fact in their selection of cell-building bees—if not, I think that they should. It may have quite an influence on queen quality. Many poor natural queens may result from this cause also, both in swarm and supersedure cases. A slight difference in the required constant temperature even in settled weather might cause poor development of egg-laying organs.

Perhaps Mr. Latham and I are in agreement after all. Perhaps he means to say that if a large number or all of swarm or supersedure cells are used, the quality will be low. But neither Nature nor a careful apiarist will do such a thing, and the queens normally obtained are, I maintain, fully equal to commercially reared queens. As for proof, I have not had a large number of colonies for a long period of years, but if good queens in 25 to 35 colonies for six years are a test, I have partial proof, at least. I constantly use the best of swarm and supersedure cells and the resulting queens have consistently out-performed those I have shipped in, which have been reared by the grafting method. Of course I realize that the trip through the mails doubtless hurts a queen somewhat but even so the commercially reared queens are decidedly not "far and away better". My eyes and ears are open to proof to the contrary but I'm still "from Missouri" and want to be shown.

Minnesota.

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## ANCIENT BEEKEEPING PICTURES

**Hans Matthes**

The accompanying three illustrations are copies of ancient copper engravings of the 17th century. An interesting legend is attached to the first one.

**No. 1** Aristeaus (Inventor Mellis)

No. 1.

No. 2.

Inventor of the honey. Aristeaus was born to Apollo by the river nymph Cyrene, and was initiated into the mysteries of beekeeping by no less a one than Ceres herself. It was he who taught the art to mankind.

It was he, too, who discovered the method, said to have originated with the Egyptians, of procreating bees from dead cattle, thus replacing his lost swarms. Virgil tells the story of the renewal of Aristeaus' bees in his fourth "Georgic". Having lost them through disease and famine, Aristeaus appealed to his mother Cyrene for aid, and visited her in her dwelling under the river Peneus. She sent him to Proteus, of many forms, whose wisdom could only be evoked when, in spite of his quick transformations into frightful shapes, he had been captured and securely bound.

Aristeaus subdued Proteus and learned in consequence that the loss of his bees was a punishment for an offence he had committed against Eurydice, unwittingly causing her death and arousing the vengeance of Orpheus and the wood nymphs. When Aristeaus returned with this information to Cyrene, she told him what he must do to regain his bees. It is the old story, supposed to have come from Egypt, of the birth of bees from the carcass of a sacrificed bull.*

**No. 2** This is a Flemish picture of swarming bees. A swarm escapes and people make a tumultuous noise and beat upon copper pans, in order to persuade the bees to come back again.

No. 3.

**No. 3** This is an old French picture. A swarm escapes and people try to make them come back, by beating upon copper pans.—Holland.

*See page 271 of "The Honey-Makers", by Margaret Warner Morley.

## TELL YOUR CUSTOMERS ABOUT THE NEW TESTING KITCHEN!

What new Testing Kitchen? Why, the Institute's New Testing Kitchen, and because the Institute is an educational unit endeavoring to stimulate public appreciation of honey, it is the beekeeper's best friend.

The Testing Kitchen belongs to all Institute members just as does the Institute. The Testing Kitchen is a honey workshop where intriguing new ways to use honey are developed. It is the link between the beekeeper and the market and also between the market and the consumer. Surely

Miss Cranston scoring Honey Pound Cake. Note the beautiful double oven MONARCH electric Range, and the many pound cakes on the laboratory table in the back.

Below: A section of the Kitchen showing the beautiful new sink and cabinet. Miss Cranston is getting ready to make another batch of pound cakes. Note that there are dishes to wash and wipe—even in the Institute Kitchen.

your customers would like to k..ow more about this national laboratory where recipes are tested and retested and tested some more. If you will but use the results of the Testing Kitchen as your selling ammunition, you will readily be convinced of the part it plays in building business for those connected with the industry.

In January, through a cooperative agreement with the College of Agriculture of the University of Wisconsin, the Testing Kitchen was moved into the new Honey Laboratory at the University. At this time the Kitchen was completely refurnished with new equipment and Miss Mercedes Cranston allowed to devote the major part of her time to enlarging the Kitchen Program.

During the past month she has been making dozens of pound cakes and several hundreds of cereal cookies. The products have been carefully scored and submitted to a number of folks for a TASTE TEST. The purpose of this work was to find two basic recipes for HONEY POUND CAKES, two basic recipes for HONEY CEREAL COOKIES, and two basic recipes for Honey Candies. These recipes will go into the Rules for the Fourth National Honey Cookery Contest so homemakers throughout the United States will have the best possible foundation recipes with which to start their experimental work.

All Institute members will receive the contest rules and basic recipes. Tell your customers about this Contest so their entries may be among the ones at Washington, D. C., next October.

Finding basic recipes for the Cookery Contest is just one small part of the Testing Kitchen's Program. Seasonal recipes for homemakers and honey-way menus for special occasions are developed. Cooperating with the University Beekeeping Specialist, the necessary honey analyses will be made and projects concerning the greater utilization of honey in commercial fields will be undertaken.

And you would like to know more about the lady who is doing the testing and cookery research, wouldn't you? Miss Cranston is a home economics graduate from the Stout Institute at Menomonie, Wisconsin. After completing her dietitians' internship at Michael Reese Hospital, Chicago, she served as a hospital dietitian, taught home economics and then in 1934 came to the Institute. She is a member of the American Dietetics Association and treasurer of the Wisconsin Dietetic Association.

Miss Cranston will be glad to hear from you and hopes everyone of the readers of this journal will enjoy and use Institute Honey Recipes in their own homes.

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## A PURE SUGAR DIET FOR BEES

**Mykola H. Haydak**

Every beekeeper knows that during the winter bees live on the stores of honey which they collected during the season. Nevertheless, during winter, bees do consume pollen, as shown by Dr. C. L. Farrar. Even if there is no store of pollen to speak of in the hive, honey itself contains a certain small amount of proteins and minerals. In some bad years a beekeeper has to feed sugar solution to his bees in order to provide enough stores for the coming winter. In this case the bees have to live almost on a pure carbohydrate diet. How does this diet affect bees?

The only way to find it out is to put a colony on a pure sugar diet and observe the changes which will manifest themselves during this time.

A colony consisting of young bees of a known age was hived on combs containing honey and pollen. The hive was kept in an isolated compartment of a green-house. The bees started brood-rearing.

After sealed cells were noted the colony was transferred to a clean cage on newly-built combs. Only sugar solution was given to the bees. The latter lived on this diet for 189 days (6 months). The last bees to die were 236 days old. The bees were free to fly in the cage, but by the end of the experiment they did not show much vitality.

During the time of the experiment the bees lost 34 per cent of their weight and utilized 22 per cent of the proteinaceous materials of their bodies for the living processes. **This experiment shows that the adaptability of bees to adverse conditions is really remarkable.**

University Farm, St. Paul, Minn.

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## COMMENTS ON CURRENT ITEMS

**J. F. Dunn**

Mr. W. Leroy Bell nails his bottom boards on permanently. When we used single-walled hives we fastened them on with hive clamps, and, to be safe when moving, we used crate staples also. That made them 100 per cent safe. If Mr. Bell's directions are followed to the letter his plan of moving bees without screening the front can be done. There is an advantage that he does not mention. The bees are less excitable if entrances are left open. If the weather is at all warm and entrance screens are used bees will cover the screens, worry and clog the entrances and cut off ventilation.

### The Swarm Box

Mr. Alan Gordon's illustration of the Whyte-Johnstone swarm box is a good one. We have in days gone by used one made of a paper carton over a ⅞x⅞" frame. I believe it was several years ago that I told in Gleanings how to shoot them down. It is about the only way to secure a swarm that hangs up on a slender limb that cannot be reached with a ladder. The best gun for this purpose is the old-time military rifle with its large calibre bullet. Or, the modern L-E. or Springfield (which is really an improved mauser) with high power powder and slender bullet will do the trick.

### Stores for Winter

Mr. Deyell recommends placing the queen excluder over the food chamber thus giving a large brood chamber. This has been our plan for a number of years. The result has pleased us very much and has lessened the desire to swarm. At the time of preparing for winter almost all of the brood has hatched and if there is a fall flow the cells are pretty well filled with honey. If not, it is easy to exchange full combs for empties from the extra super left on after the main flow, and we can rest assured that bees are provided with stores for the long winter.

### Producing Comb Honey

In regard to top or bottom supering for comb honey, in our own experience we decided that we could make more money by producing both comb and extracted. We were then comb honey specialists. We learned that the best authorities taught that the bees had to eat and digest 15 to 20 pounds of honey in order to make one pound of wax. As our comb honey equipment was of the section-holder pattern and would hang the same as the shallow extracting frames, we decided to produce extracted honey also, hanging the section holders fitted with full sheets of foundation, about two to each super, and as long as we had nice bright extracting combs next to the sections we had sections beautifully capped. But, if we had dark combs next the sections the bees seemed to use some of the dark wax for capping. We had plenty of extracting frames and as bees secrete a certain amount of wax anyway, we

considered we lost nothing in letting all strong colonies work on a number of sections in our extracting supers. We are still of the same opinion.

Ontario.

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## SPINSTER JANE SAYS—

### No Bee Weather

The weather-man is certainly not bee-minded. He has given us only one really warm day, yet, and it was a "scorcher", over 90 degrees in the shade. The icy winds blowing now are perhaps to repay us for grumbling over that one sample. I really believe I am becoming a farmer, for they say only farmers are never satisfied with the weather.

Are beekeepers any more easily satisfied? Their success or failure, too, depends entirely upon the weather. Here in the North, this year, a successful beeman would still be feeding his bees. More, he might find it necessary to screen the entrances to prevent spring-dwindling. Though I believe I can still put up a good argument with the man who said beekeeping in the North can never pay, such conditions damp the keenest zest. I am like the old Scot who said he was willing to be convinced, but he'd like to see the man able to convince him. I think that should be our attitude towards our chosen job in life. Stick to it. Fight to overcome difficulties. Win a smashing victory over failure. Divorces would be fewer if both the man and the woman in the case took that slogan for their motto through life. And marriage and home-making are man-sized jobs for anyone, now-a-days.

I know it's easy to say, but mighty hard to live up to, but it's worth trying if it keeps but one home from shipwreck.

### Honey Lies

I never before heard of that famous, or shall we say infamous, LIE concerning section comb honey being an artificial product, but here in our own community, another honey-lie was once broadcast. A man, old enough to have better sense, if men ever attain that age, insisted that our veteran beekeeper's honey was not pure, but was a product of granulated sugar. And his reason? He knew, because he had seen this beekeeper feeding it to his bees!

When I tried to tell him it was simply to feed the brood or larvae, to keep them from starving, until the flow of nectar began, he would not believe me, declaring that no such quantity of syrup was necessary. And did I see red! Anyone knowing anything of bees, knows that one hundred or more strong colonies, with queens reared upon food rich in vitamin E, can use an enormous quantity of such syrup, but try to convince that man!

"A man convinced against his will,
Is of the same opinion still," is only too true.

### Faith in Humans

A banker once told us to take every man to be dishonest until you have proved him otherwise. But is this a good thing to do? I think not. Would we not grow suspicious, cynical, and hard? And what about the other person in the case? Why not, rather, believe in a man until you find your faith misplaced? True, you may suffer losses, be sorely hurt, perhaps, but it will not do half the harm that eternal suspicion of one's fellow men can do. The man knowing you believe in him, is apt to try to live up to your expectations of him.

Bees take us on trust, until we get in their way and stay there to impede their progress, or until we enter or molest their hive, and theirs is a good example to follow.

### New Beekeepers

My constant rooting for bees promised to spread this bee-minded contagion. Two more beekeepers have entered the field. One, once a neighbor, now in the Forestry Branch service, though living in a small town, is planning a few colonies for his back yard. He has kept bees successfully before, and has ever since had a hankering to have his honey made at home, under his own supervision. He came to borrow a veil and smoker, to get them in shape. The second recruit is no less a personage than our Government Land Inspector, a husky ex-soldier. Woman-like, I gave the man a bit of helpful advice. Said I, "Let me advise you to start with only a few at first." Said he, man-like and important, "Yes, I shall get only ten or a dozen colonies, at first." I said no more. Silence is better than words, when talking to a man and you know you cannot have the last word. I'll leave that for those ten or dozen hives of bees. They will assuredly prove a number of things to him.—Spinster Jane.

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## An Inspiring Partner Gone

Just a year and a half ago (January, 1936, page 45) we published a picture of Mr. and Mrs. E. R. Root on the occasion of their golden wedding anniversary—a happy event.

With what different emotions we publish this present picture, taken on the same occasion! Mrs. Root, after a brief illness, passed away Tuesday morning, June 1.

Mr. and Mrs. E. R. Root on their Golden Wedding Aniversary.

Mr. and Mrs. Root, as most of you know, had been in Texas for the past seven months, where Mr. Root was doing field experimentation work in beekeeping. Apparently on the journey north Mrs. Root contracted the flu as on the Thursday following their return she became very ill, the doctors pronouncing the ailment flu-pneumonia.

Mrs. Root's beautiful serene spirit and quiet unassuming nature won her many friends. Her literary accomplishments and alert mind made her an incomparable partner to Mr. Root in his work. As he often said, she was his "eyes and ears".

Mrs. Elizabeth Humphrey Root was born in Wellington, Ohio, April, 17, 1864, coming to Medina when a young woman, and occupying a position in the office of The A. I. Root Company, where Ernest Root became acquainted with her. They were married on December 15, 1885. Besides her husband, she leaves one son, Alan I. Root, and two grandchildren.

## The Passing of Mrs. J. T. Calvert

June 10 marked the death of another member of the Root family, Maude Root Calvert, oldest daughter of the late A. I. Root, and wife of Mr. J. T. Calvert. It was only last September that Mr. and Mrs. Calvert celebrated their golden wedding anniversary, an occasion long to be remembered and referred to in the October, 1936, Gleanings.

Years ago shortly after Mr. Calvert became an employee of the Root firm the young couple met and later were married. Mr. Calvert was for years General Manager of The A. I. Root Company and Business Manager of Gleanings in Bee Culture. At present he is Secretary and Auditor of The A. I. Root Company.

Mrs. Calvert was born in Medina, April 16, 1865, and with the exception of a few winters spent in California had always lived in Medina. She was a woman of kindly spirit, high ideals, devoted to her family and friends and loved by all who knew her. For the past few years she did not enjoy good health yet her passing comes as a shock to the family and friends.

Besides her husband there is left to mourn her loss a daughter, a daughter-in-law, five grandchildren, two brothers, E. R. Root and H. H. Root, also two sisters, Mrs. L. W. Boyden and Mrs. A. L. Boyden, both of California.

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# Editorials

**The Weather and Crop Prospects** Recent rains over much of the East, North and middle West have greatly improved prospects for a crop from the clovers. Parts of the West are still in need of moisture.

In the white clover region the little white Dutch is springing up in the meadows, pastures, and lawns and may yield some surplus. Alsike and sweet clovers that were not winterkilled are in excellent condition but unfortunately a considerable part of last year's seedings were heaved out this past winter. Alfalfa appears to have fared better and may save the day in some areas, as it has during the past few years.

All in all, prospects are more encouraging than they were a month ago and a fair crop may yet be harvested.

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**What About Section Comb Honey** Some say it has seen its day. Others say it may come back. Who knows? True, there are difficulties in producing good salable comb honey in sections. Most any beekeeper with average ability can produce extracted honey, but comb honey production requires an altogether different technique. But it can be produced—when conditions are favorable. In our opinion the decrease in section comb honey during the past decade has been due in part at least to unfavorable conditions during the recent drouth years.

It seems that the drouth has been broken. To date, June 22, there has been an excess rainfall of 6.45 inches in this area since January 1. We may have a return of seasons similar to what they were some years ago when comb honey was produced in quantity.

Assuming that comb honey in sections may never reach the place it held in the past there appears to be a sufficient demand for it to warrant its production on a moderate scale at least. The increase in sale of comb honey sections this season is an indication that at least some beekeepers have not given up hopes of producing comb in sections.

**Package Bees by Truck** The movement of package bees from the South to the North by truck which began a couple of years ago increased considerably this past spring.

The express companies would do well to see that they do not lose a large volume of this business in the next few years. Most of the extensive beekeepers have large trucks. Not a few of them are finding it cheaper to drive these trucks to the South land, load up with package bees and then drive back. It takes two drivers, and the truck is kept going nights as well as days. Two nights and one day will in most cases deliver the bees to destination.

The practice is to start at night when it is cool. By daylight, if the truck is kept moving, the bees will be in a colder climate if it is early spring.

As a rule when there are two drivers one spelling the other every four or five hours, faster time can be made than by train. If one driver becomes sleepy at his turn his pal at the wheel drives slowly for a few miles and the sleepy chap runs along on foot until he is thoroughly awake. This is a common remedy in all over-land trucking and beekeepers have adopted the scheme in night or day driving.

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**Propolis in Antiseptic Preparations** Every beekeeper is familiar with propolis—a gum gathered by bees from a variety of plants and used by them to chink up small cracks and crevices in hives. Propolis is a nuisance, especially in regions where it is plentiful. It occurs in parts of the hive where it is apparently useless. It adheres to one's hands when manipulating frames. Ordinary toilet soap will not remove it, but gasoline will.

It is of interest to know, however, that propolis, even though a nuisance in some respects, has curative qualities and is now in demand as the base of an important antiseptic preparation used by surgeons. It is also recommended as a domestic remedy for wounds and burns.

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**Swarm Control** One of the biggest problems in beekeeping is the problem of controlling swarming. This past spring and early summer swarming has been more prevalent than for a number of years. The comparatively mild winter in the East was favorable for wintering bees. Colonies with ample stores built up rapidly early in the spring. In many sections of the country warm weather during fruit bloom and dandelion enabled bees to store some surplus honey. In some instances supers were not given and colonies swarmed out. In other instances supers were supplied and yet some colonies swarmed.

As a rule supering early, before congestion occurs within the hives, will prevent swarming. A few colonies may prepare for swarming, even though supers are given early. Such colonies are usually headed with queens that are reaching the end of their usefulness, or, are being superseded. It pays to have all colonies headed with young queens, also to supply supers a little in advance of the time they are actually needed.

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**The Danger of Carbolic Acid** Enough reports have been published to show that when the fumes of carbolic acid are used to drive bees out of supers, the odor may and does sometimes cling to the honey. If there is even one case in a thousand where such odor is detected in the honey, great caution should be exercised.

If a story should get into the newspapers about carbolic acid in honey, it would do untold damage to its sale. While it is possible for an expert to use the carbolic acid method of removing honey, an inexperienced person or one who is careless, might leave something more than a trace of carbolic acid smell in the honey. Said one beekeeper last summer, "I'll not use carbolic acid, and while I admit that reports have shown that no odor is traceable in the honey, I am afraid that the 'slob' would be careless and leave a strong odor that would scare the buyer and possibly give rise to a newspaper story."

The remedy is to either use bee escapes and avoid any possible danger or use pure carbolic acid crystals, sometimes called "phenol". The crystals are white and come in blue bottles. Never buy liquid carbolic acid.

Again, when the pure crystals are used, follow directions to the letter and then place the supers cross-wise so they can ventilate in a room well screened from robbers.

It may be inadvisable to encourage beginners to use carbolic acid for removing honey from the hive.

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**Keep More Bees But Keep Them Better** There appears to be a tendency at present for beekeepers, especially those aspiring to be commercial producers of honey, to increase their number of colonies faster than their ability and facilities for handling bees will warrant. Many have the desire to become 1000-colony beekeepers and to be looked up to as leaders in the industry. This is a laudable objective, but in attaining it care should be taken not to expand too rapidly and not to try to operate more bees than can be managed efficiently.

It is one thing to own 1000 or more hives of bees and to secure a fair crop of honey, but it is still another matter to manage 1000 or more real colonies of bees in such a manner that the maximum crop is harvested. This calls for intelligent and efficient apiary management.

This is not meant to discourage commercial beekeeping—far from it. The industry needs more beekeepers, large and small, and more bees to take advantage of the thousands of tons of nectar that go to waste yearly for the lack of bees to gather it. At the same time there is a need for a greater efficiency in the management of bees so that the average per colony yield may be increased and the margin of profit in beekeeping widened.

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**Bees in Towns and Cities** Bees have been and are being kept in all sorts of places such as back lots, porches, flat roofs, rooms of dwelling houses, or attics with entrances of hives leading outside. Not so long ago a business man in St. Louis, Mo., who knows beekeeping, kept a colony facing out through his office window down town and secured a considerable amount of surplus honey.

Bees are needed in towns and cities to pollinate fruit trees that are grown in back lots. Thousands of business and professional men derive both pleasure and profit from bees, which serve as a pleasant diversion from

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the strenuous daily grind of business. The majority of back-lot beekeepers know how to handle bees properly so that they do not cause any disturbance among neighbors. Unfortunately a few beginners do not use good judgment, or, through ignorance, try to operate colonies when weather conditions are unfavorable for opening hives. This frequently results in neighbors getting stung.

Just recently there have been reports of attempting to rule bees out of certain cities. In some instances it is thought that this has been due to jealousies and neighborhood quarrels. It is natural for a disgruntled neighbor to take his spite out on his neighbor keeping bees by attempting to have the bees removed from within the corporation limits.

As our country becomes more thickly populated it seems apparent that beekeepers will be obliged to use more discretion in the selection of apiary sites and also greater care in operating bees in such a way that they may not become a neighborhood nuisance.

Also, vicious hybrid colonies of bees (and there are such) that do not respond to reasonable handling must be eliminated from towns and cities. Furthermore, beekeepers and queen breeders must give more attention to producing bees that are reasonably gentle to handle.

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**Medical Man Approves Honey for Diabetes**

The American Medical Association formerly held that honey was no better than ordinary sugar as a food and medicine; that its only merit was flavor. It is evident that the Association is now changing its attitude, or has done so to a considerable extent.

The American Medical Association's acceptance and approval of printed matter sent out by the American Honey Institute showing the food value of honey for children, old people and others with impaired digestion, is a distinct advance over the position it formerly held. This great organization is conservative as it should be and when it accepts the statement of the American Honey Institute as it now does, the beekeeping fraternity and all honey lovers have a right to rejoice. Score one more for the American Honey Institute, Mr. Beekeeper, with your dollars.

Very recently the Senior Editor had a long interview with a specialist in kidney diseases, of which diabetes is one. This specialist stands high in the medical profession. In former days again, many in the medical fraternity held that carbohydrates (starches and sugars) should be strictly avoided in diabetes and when any beekeeper or doctor would intimate that honey could be given in certain mild cases, the old timers would call him down most vigorously for putting out such a heresy that would mean sure death to the diabetic.

Well, this specialist, knowing this, made a statement which we are quoting as nearly as we can from memory: "Mr. Root, the doctors are treating diabetes differently from what they formerly did. Insulin, when given in proper doses, will enable a diabetic to eat an ordinary meal consisting of sugar and starches. But if an overdose or underdose is injected into the blood, serious trouble may come, especially if sugar is not taken soon enough thereafter. We recommend keeping away from insulin if possible. In former days we told the patient to avoid sugars and starches entirely and eat only such foods that contained little or no starch or sugar. While this helped, the entire avoidance of the carbohydrates caused the patient to become weaker and weaker. In fact, it meant slow starvation and death. We now recommend a limited amount of the right kind of sugar and starches in a form that can be assimilated."

At this point we asked what about honey? He smiled a little and then as if he were afraid to be quoted, said: "Why, yes, any sugar that is more easily assimilated than another sugar should be used. Honey is an invert sugar made up of two sugars found in the blood."

The new treatment for diabetes is a scheme of dieting that does not take away all sugars and starches. Many diabetics, by careful eating, taking some sugar, are able to live on without insulin. Honey is one of the sugars that can be taken; but as we have often said the patient who has this disease should follow the advice of his doctor.

It will not be long before the medical men at large will see the value of honey in the treatment of diabetes. Many of them do now. Truth is mighty and will prevail.

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# From North, East, West and South

**SOUTHERN CALIFORNIA, June 4.**

**Weather:** We had one of the heaviest rainfalls on record up to March 30 and practically nothing since. A few good spring rains would have helped prospects. The ground is full of moisture and streams that are usually dry at this time are running strong.

**Honey Crop:** Up until about May 18 the honey flow from black sage and orange was all that any one could ask. Sage on the warmer ranges ran a close race with the orange. Colonies in good condition yielded from 40 to 100 pounds per colony. Then the weather turned cold and all honey stopped. The weather is now warmer and bees are working again. The white sage and wild buckwheat are just starting and promise well. We cannot expect any more rain and the plants must depend upon the moisture in the ground which is plentiful. Southern California should have a good but not a large crop this year. Prices are not fixed as yet and few sales are reported.

**Miscellaneous:** Time spent visiting beekeepers and observing short cuts is most profitable. A minute saved here and there counts in the day's work. Our extracting-house floor is the same height as the truck body. Supers are placed on floor boards as they come off the hives. A small hand truck takes six supers at a time from the truck to the extracting location. The same method is used with empty supers as they go back to the apiary.

Many beekeepers have been rushed and are behind with their work. Foundation that could have been fastened in the frames during the early spring when it was too cool to work with the bees, is being hastily set a little at a time. With the wood strip to fasten the foundation to the top bar and the electric imbedder all foundation can be set during the cool spring weather. Then when the bees are just begging to draw comb one can give them all they can use. Usually we place two or three frames between the wet combs as they are returned to the bees after each extracting, as we feel that a colony will draw that amount of comb without in any way cutting in on the amount of honey the colony will store.

The season of fire danger is at hand. Different measures have been proposed. Some beekeepers think that there should be an ordinance requiring that all bee yards have a definite space cleared around them. Careful beekeepers always try to protect their apiaries and are very careful in the use of fire and the emptying of their smokers.

Complaint is heard of beekeepers moving their bees onto locations and not providing for water, much to the annoyance of the settlers living near. At other times bees are placed too near the traveled road. We, as beekeepers, cannot be too careful in these matters as the man traveling the road and the man on a small ranch has certain rights, and one of them is that they should not be annoyed.

Thousands of nuclei have been shipped from Southern California to the North during May. Some even having been taken to Nebraska. Much of the moving is being done on semi-trailer trucks that formerly was done on the railroad.—L. L. Andrews, Corona.

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**NORTHERN CALIFORNIA, June 2.**

**Weather:** After our last rains, which last longer some seasons than others, as late as April this year, we hear little from the average beekeeper about weather. The few who make a study of weather conditions stop from their busy duties among the bees only long enough to tell us how the weather at this time compares with that of other seasons. In some localities the weather thus far has been ideal. In the sage district a beekeeper who is finishing his first extraction will tell you the weather has been perfect for his bees while his neighbor twenty-five miles away will tell you there has been too much foggy weather and the sage has not commenced to produce nectar, but his bees are in first class condi-

tion. At the end of the season the report for both districts will likely show little difference.

Farther north, beekeepers to date have been busy shipping queens and package bees. Soon their turn will come in the lima beans, alfalfa and star thistle.

**Honey Crop:** Extraction is in full swing in the orange and sage districts. A variety of reports as to yields are coming into the office of the State Association. The final report cannot be made till the crop is in cans.

**Beeswax:** Beeswax is scarce and the price continues about the same. The trouble with the average beekeeper is that he has none for sale. Foundation is plentiful at a reasonable price and our beekeepers are making use of it.

**Miscellaneous:** After the freakish weather of last winter we wondered what our swarming conditions might be. Sure enough they were as freakish as the weather had been and bees that had not wintered well on account of the shortage of stores took lots of time to build up. Bees that had plenty of stores built up rapidly and in spite of all the beekeeper could do they swarmed and swarmed. Those that were slow in building up swarmed before they were strong enough and here the first of June are still swarming, making a swarming season from March to June.

The question of airplane dusting of poisonous insecticides still occupies the time of our State Association officials. The beekeeper is not the only loser. Reports reach us frequently of the poison being spread by airplanes reaching crops not intended to be dusted, causing the loss of cattle, sheep and other stock that feed in fields a long distance from the field on which the operator intended the insecticide. Evidently there is enough to this question to interest beekeepers in all parts of the United States.

In March in response to the demand made by the beekeepers for a change in the regulations of the Department of Agriculture in order to protect bees against poisoning, Director Brock called a meeting to study the matter. Out of that study the new regulations have come. The director has given the matter serious study and the new regulations show that we have gained ground, but the war is not ended. There is yet much to do and beekeepers in all other states should be on their guard to take the matter up before it gains such proportions that it is hard to control.—Cary W. Hartman, Oakland, Calif.

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**TEXAS, June 1.**

**Weather:** May will long be remembered by the beekeepers as a month of disappointments. The beginnings of the honey flow in April were brought to an end by drouth. Horsemint was stunted to such an extent that very little honey flow has occurred. Two light showers occurred during the month. These did not help anything but did increase brood-rearing to such an extent that the early stored honey was used up. It appeared through the latter fourth of the month as if there would be no honey flow in central southwest Texas this year. However, on May 31 a rain of 5.14 inches not only put an end to the drouth but will probably revive the horsemint to such an extent that there will be a light flow from it and there will be a mesquite flow in late June.

**Miscellaneous:** During the month the writer made a trip through East and Northeast Texas. Southwest Texas is hardly ever considered as a beekeeping territory; however in the Sabine and Neches valleys many beekeepers were found who were producing considerable honey each year, all of it produced in boxes or hollow logs and sold locally. The common answer to the question of honey production was that bees do not do well a sufficient number of years to pay for the care they necessitate. One bee owner expressed himself as follows: "If the bees make honey I can take out my share and if they do starve to death I cut a few more bee trees. Nobody will pay money for honey and I know little about preparing it for market." The source of the honey seemed to be mostly from blackberries which during the middle of May were in beautiful bloom.

All beekeepers seen are planning to be present at the annual meeting of the Texas Beekeepers' Association when it meets at Uvalde July 16 and 17. Anyone wishing to present a paper should make that fact known to Dr. S. W. Bilsing, Chairman of the Program Committee, Department of Entomology, College Station, Texas. —H. B. Parks, San Antonio, Texas.

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**VANCOUVER ISLAND, June 3.**

**Weather:** The spring here this year year has been a long disappointing period. After the unusually severe winter with an unprecedented snowfall which lasted well into March, we naturally hoped for an early spring. But our hopes were not fulfilled as the rain and cold dragged on, and except for an occasional spring day here and there we could not call it spring until nearly the end of May. However, now (June 3) it is perfect and we hope at last it has come to stay. The days are hot and bees are working hard. Unfortunately the inclement weather prevented the bees taking advantage of the abundant maple bloom, and also later on fruit bloom. However, the madrona is very plentifully covered with bloom this year and the bees are doing full justice to it.

**Honey Prospects:** Where colonies are strong the prospects should be good as the unusually deep snow for a long period was excellent for clover and alfalfa and all later honey plants. If only weather conditions had been favorable at the time, the abundant maple bloom was sufficient for an early heavy surplus. In some parts of Vancouver Island the hills and woods are white with madrona flowers and this with creeping arbutus and vetch at this time give the bees plenty to do until clover and fireweed come on. The clover and alfalfa are showing well on account of the moisture from and protection of the snow in the winter. So much for the prospects, and now it depends on the bees and the weather for final results!

**Miscellaneous:** Happy are those beekeepers who left a liberal supply of stores in the hives. The sudden warm weather has brought reports of early swarming all over which means overcrowded hives. Where the flow is late this is not so bad, but in the dry districts where they have an early flow it is disastrous at this time. Where an early flow occurs the beekeepers move their colonies to the later fireweed districts, in many cases obtaining a second bumper crop. One objection to this practice is the possible spreading of foulbrood. This happened in one of the famous fireweed locations on Vancouver Island last year and a number of colonies had to be destroyed by burning. As this means a total loss of bees, equipment, and honey, one can imagine how the beekeepers in these districts dread the advent of the menace of migratory beekeepers. Swarms escaping from infected colonies which settled in trees and logs, etc., may endanger clean colonies this year, so the end is not yet!—Florence A. Greenwood, Vancouver Island, B. C.

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**ARIZONA, June 1.**

**Weather:** After one of the coldest winters on record for the past several years producers looked for a fine warm spring, but exactly the opposite has been the case. March and April remained cool and backward. Cool nights have continued through May and on into June. There is no serious shortage of moisture for there were good rains over the desert region early in the spring and snow above normal in the mountains. Due to cool backward weather the bees built up two to three weeks later than usual, but were in time for the bloom which was likewise two or three weeks later than normal seasons.

**Crop Prospects:** At this writing the honey flow is entirely over from the Gillispie Dam to Yuma along the Gila River. The honey flow is just beginning in the desert regions of Southern Arizona. Along the Gila River the mesquite made several attempts to put out a fine bloom but the nights were too cold. The third bloom came out before the bees gathered much surplus and part of the honey was from tamarack which grows along the river bottoms. The honey crop was about 60 per cent of last year's production.

In southern Arizona the honey flow has been on about a week. A fair crop is being secured in some locations, but in no area will it go above the average or normal production, due to the short blooming period that is left. Locally the catsclaw bloom is a complete failure and no extracting anticipated. The bloom failed due to cold weather. Crop failure is not due to lack of moisture. The elevation here is a little higher than any other commercial location I know of in Southern Arizona. The crop failure is local, not general.

There is no 1936 honey in the hands of the producers to stand in the way of moving the new crop.—Leslie Wedgworth, Oracle, Arizona.

XUM

### ILLINOIS, June 5.

**Weather:** The spring has been a little cold and backward, but we are having very fair weather now. The soil is moist and we have plenty of local rains. In most cases the colonies are strong. Some yards have had considerable pickled brood which will disappear as soon as we have warm weather. Quite a number of small apiaries have been for sale this spring. This may have been due to more opportunities for employment in other fields or loss of interest in bees. Most likely the former is the real reason.

**Crop Prospects:** Crop prospects are favorable. Dutch white clover is starting to blossom but there isn't such a good stand of this owing to the drouth of last season. It blooms well only in low places or wet soil. In the past few years we have had no surplus honey from this and expect none this year. Yellow sweet clover and early white are in bloom. Along the western part of the state sweet clover has been severely damaged by last year's drouth. But in the central and northern parts of the state it is all right. The tendency is to plant more and more sweet clover for pasture and soil improvement. This is very welcome news to beekeepers of the state.

**Miscellaneous:** Plans are being made for a series of meetings in the north of Illinois. In Cook County, July 31, at Roy Stockdale's in Palos Park; August 1, Aurora, Kane County; August 2, Belvidere, Boone County; August 3, Rockford, Winnebago County; and one or two others not yet listed.

Honey has been selling very well at the road stands. Most all the old honey has been sold.—C. L. Duax, Chicago, Ills.

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### UTAH, June 8.

**Weather:** Although the winter was severe and put many beekeepers almost out of business, it was thought that the extra amount of moisture that fell would be the means of their realizing a larger crop per colony than of recent years, thus largely compensating for the loss of bees. But May was a dry month and beekeepers began to wonder if the fine showing of young honey plants was going to get another set-back. Then, as the month passed out, we had two days of soaking rain which has greatly relieved the situation.

**Prospects:** The prospects for a good honey crop look good and many package bees have been brought in to fill the empty hives.

There is ample water for irrigation but many of our honey producing plants grow outside the irrigated tracts. To that extent the prospects of a crop are more or less uncertain.

**Market:** Very little or no honey is being held by producers but prices are not what they should be. Quotations from the outside buyers are too low to be interesting. At retail, 10's are selling at about 79c. Beeswax is receiving 24c delivered.

**Miscellaneous:** The greatest cause of concern on the part of the beemen in some parts of the state is the problem of spray poisoning. The spraying of fruit orchards is becoming more and more a matter to be reckoned with. Fruit growers are using double strength solutions and applying them more often than ever before, so it becomes more necessary to pick up the bees and move out before the spraying begins. This is not so serious a matter for the beekeeper who has a place to go but summer pastures are rapidly becoming over-crowded.

And now another peril faces a large number of apiaries. In some of the best sections of the state tomato fields are being dusted. The farmers having no need of pollination from the bee are not worrying about it's welfare and not inclined to cooperate with the beeman for his protection—so the latter is wondering where to go next.

Then there is the plant called "Loco" that is killing the bees in some sections of the South. One man lost 200 colonies, or 90% of his force in a few days. In the north "wild onion" is thought to be killing the bees; and now we hear that the "Mormon cricket", the insect that terrorized the pioneers, is found in nine counties and they will have to be dealt with. Grasshoppers also are expected to come in for a share of attention in some counties. We are wondering what effect the sweetened baits will have upon the bees.

Beekeeping is becoming a gamble in Utah but no one seems inclined to quit the game. They are going to "fight it out—if it takes all summer".—W. H. Hendricks, Salt Lake City, Utah.

XUM

**VIRGINIA, June 8.**

**Weather:** There has been unusually good weather this spring for bees. Early warm weather caused bees to build up rapidly, and this in turn caused heavy swarming. This was especially true with small beekeepers who did not give their bees special attention to prevent swarming. There was good weather all through poplar bloom, and the rain has been sufficient for clover.

Crop Prospects: Up to this date there has been an unusually good flow from tulip poplar and clover. Some colonies have stored 100 pounds. The next flow comes from sourwood, which starts about June 15, and from all indications there will be a good flow from this source. However, bees will not be as strong in some apiaries as they should be for this flow on account of excessive swarming.

**Honey Market:** Some honey has been taken off of the hives. Indications are that the price will be a little better than last year.

**Miscellaneous:** More interest is being taken in bees this spring than usually. Many people are starting with bees and most of the commercial beekeepers are increasing their colonies.

The Tidewater Beekeepers' Association held their quarterly meeting on May 12 at the home of Mr. Johnson near Norfolk, Virginia. The Virginia Beekeepers' Association will hold their summer meeting around July 20. The exact date and place has not been decided on at this time.—H. W. Weatherford, Vernon Hill, Va.

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**ONTARIO, June 7.**

**Weather:** Another month has passed rapidly and today, June 7, things present a summerlike appearance, vegetation being well advanced for this time of the year. May was cool and wet up to about the 25th, and since then it has been fairly warm with little rain. Bees that had wintered well built up rapidly and we actually had a large swarm on May 24. Since then a number of other swarms issued before we could get around to the different apiaries and give them needed attention.

**Honey Prospects:** While we like to see the bees build up strong during the dandelion and fruit bloom we never welcome surplus honey from this source. This year for the first time in a long while strong colonies given supers have stored some of this strong flavored honey. To make it easier to keep this dark honey separated from the clover honey these strong colonies were given shallow supers which will be kept separate and extracted with the buckwheat crop late in the season. It is not an easy matter to extract this honey before clover opens as aside from the work entailed many supers have only a small amount scattered in the combs, if full-depth supers are given.

Many colonies were not supered and today we are having a lot of cell-building even if little nectar is coming in.

Wherever there is clover prospects are excellent as bees are now in fair condition and clover is rank in growth with moisture plentiful in all of southern Ontario. While we have little alsike and no white Dutch clover except the young plants that have come up this spring—and they are abundant—the alfalfa is good. Plants on my son's place actually measured 33 inches high on May 24. This is of course above the average. Last year was the year for basswood to bloom and I notice that on the few trees we have locally very few buds are showing. But clover is Ontario's best bet in the honey line and I suspect that beekeepers in localities where clover is plentiful will get a crop. We do not happen to be favorably situated this year so if we get a crop it will be a happy surprise.

There is quite a demand for honey locally, but many like ourselves have little for sale. Beeswax is in good demand at good prices.

**Miscellaneous:** I read with interest in last Gleanings about keeping 400 colonies in one place. I am sure 400 colonies could not be kept profitably in one place in our county. What a saving there would be in truck upkeep, not to mention hours spent in driving over the road. But experience has taught us, here at least, that 50 colonies in one place is better than a larger number. Of course, we have years when many more colonies could be kept at one place but I am taking the average season in coming to this conclusion.

This year we made up all winter losses with package bees and aside from the question as to whether or not they pay we find packages very

convenient to get the combs occupied. Bees arrived in perfect condition and for some reason they could be handled at any time of the day with no loss of bees by flying out of cages when placed in the hives. All shippers and authorities strongly stress the advisability of giving package bees a heavy feeding of syrup before placing them on combs. Why, I wonder? Has anyone ever proved that this is the best procedure or is it merely a matter of theory? For some time past I have doubted the necessity of doing this gorging and for the past three years we have not bothered to do it. This year to date, we have the fewest losses among queens in packages that we have ever had and not a drop of syrup was fed to the bees before installation. Feeding syrup makes the cages sticky and if the bees are inclined to rob, more damage is done by feeding the syrup than may be imagined, especially by a beginner, as robbing in an apiary means loss of queens no matter how they are being introduced.

If you think I am wrong in this matter, Mr. Beekeeper, if you are getting packages next spring try a few without gorging and compare them with the others that you gorge, and see if I am right.

Just a word, Mr. Editor, to what you say about the corn syrup manufacturers and the Dionne babies in last issue of Gleanings. Please emphasize the fact that in his summing up of the evidence given in the lawsuit, Mr. Justice Jeffreys used these words: "Not one of those babies got more than five drops of the syrup". That, to my mind, is the most outstanding statement of this nature I have ever heard. It shows to what length some manufacturers will go, as the learned judge said, to "mislead the public".—J. L. Byer, Markham, Ontario.

# Just News

Grafton, N. D., has been selected for the summer meeting of the N. D. Beekeepers' Association on July 28. H. C. Dadant, Prof. L. T. Floyd and M. J. Deyell will be the out-of-state speakers.

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Dr. George D. McGrew of the Army Medical Corps recently reported that hay-fever sufferers obtained relief by eating honey produced in the vicinity of their homes. Presumably the curative agent was pollen extracted from hay-fever flowers by busy bees.—**Page 17, Literary Digest, June 12, 1937.**

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A field meeting of New Jersey beekeepers will be held at the apiary of Joseph P. Stefkovich and also at two neighboring apiaries at Franklin, Sussex County, on Saturday, July 17, 1937, starting at 9.30 A. M. DST. Besides the discussions and demonstrations on beekeeping there will be a short talk by an official of the New Jersey Zinc Co. The zinc mine at Franklin is the richest one in the world. Each will bring lunch and enjoy a social time together.

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A meeting of Missouri beekeepers will be held at the home of J. F. Diemer near Liberty, Mo., on July 11, 1937. Bring your picnic basket and let's have a regular old-time meeting. This meeting is not being sponsered by any beekeepers' association. What is wanted is for all beekeepers from one colony up to a thousand to get together for enjoyment and demonstrations.

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The dates for the summer meetings of the Michigan Beekeepers' Association are as follows: southeastern Michigan and northern Ohio on July 29, at Ross Wyant's apiary, Sylvania, Ohio; central Michigan on July 30, at Oscar Schmidt's, Bay City, Michigan; northern Michigan on July 31, at James Hilbert's in Traverse City. A representative of American Honey Institute and other nationally known speakers are on the program. Further details by mail. Everybody welcome.

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The Wisconsin Beekeepers' Association will hold two summer meetings —one at the apiary of Mr. Wm. Prochnow, Gillett, Wisconsin, on July 23, at 10 a. m., and the other at the apiary of Mr. H. O. Rodeske, Fountain City, at 10 a. m., Sunday, July 25. Out-of-town speakers will be H. C. Dadant and M. J. Deyell.

Separate meetings will be held for

(Continued on page 444)

XUM

# Heads of Grain from Different Fields

### Bees Aid Finances

While I have been caring for bees for half a century, from but a few colonies up to nearly two hundred, I feel that I can hardly qualify as a real beekeeper. I get almost frightened when a man begins talking about producing honey in carload lots. I have always been forced to let the bees play second fiddle, but often they have fiddled me out of financial difficulties into which the main crop, potatoes, had gotten me. I am not sure that I should want to be engaged in the production of honey to the exclusion of other things, even though it made me a millionaire. I find too much happiness digging in the earth and planting things, and watching them develop.—O. B. Griffin, Maine.

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### We Should Eat More Honey

A druggist recently asked me how enough honey could be produced to feed the millions of people in the United States. "How much honey do you eat in a year?" I asked him.

He thought a minute. "Oh, I guess about five pounds."

"There you are," I said. "A lot of people eat no more than you. Hundreds of thousands eat no honey at all. We can supply the honey all right. Our problem is to get you fellows to eat more of it."—Clarence J. Tontz, Cresent, Okla.

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### Bottomless Hive for Swarm Prevention

For an experiment I selected two strong colonies last spring that would be ready to swarm in a few days. I removed the bottom boards and in their places put rims just like the rims of regular bottoms without bottoms. To provide alighting boards I nailed a narrow board in the front of each rim letting it extend just inside the hive. I drove three stakes for each hive letting them stand 18 inches above the ground and set each hive with rim on top of stakes. I allowed them to become crowded never giving more than two comb honey supers at a time. On warm nights there would be a good-sized swarm hanging down from the frames. In the daytime the swarm would disappear. After the first few days very few bees would use the alighting board, but flew directly under the hive. Nothing else was done for swarm prevention, and they did not swarm. My bees are all shaded from the mid-day sun. They never crowd themselves more than is comfortable, simply hang down below. One colony built some comb under the bottom bars of the frames and the other did not. Try it on a few hives.—Harry Selders, Farmington, Del.

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### What Caused Swarm to Cluster?

Several years ago one of my colonies cast a swarm, and a neighbor woman told my wife to flash sunlight from a mirror into the swarm while it was in the air. The bees quickly came down and clustered on a fence post, and were soon induced to enter a hive placed close by. Since then the same scheme has worked without fail, and since I do not remember to have seen it recommended in any of my bee literature I am wondering whether it was really the sudden flash of sunlight, or if they would have come and clustered low any way. Perhaps it is something that every beekeeper has known so long that it is considered superfluous to mention it.—H. B. Seward, Youngstown, Ohio.

[We are doubtful if flashing light from a mirror on a swarm in the air induces the bees to cluster. However, this is rather common practice and in some instances it seems to work. Some of our readers may have opinions based on experiences along this line.—Editor.]

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### Scrape Sections Without Breaking

I wonder if any other beekeeper ever broke any sections while scraping the propolis off and cleaning them up for market, or, perhaps, I am the only awkward beekeeper. However, should any be interested, this is the way I solved this problem. I use a piece of 2x4 about 6 inches long with one end cut square, and nail it onto a piece of 1x4 about a foot long. The 2x4 is set on edge. I fasten it to the work bench with two screws so that it may be removed when not in use. It gives the section a firm support so that it may be cleaned without danger of breaking. It also speeds up the cleaning job.—Clifford H. Kelty, Vinton, Iowa.

XUM

# On to Washington

**George J. Abrams**

Secretary-Treasurer, American Honey Producers' League.

The International Beekeepers' Conference will be held this year in the Nation's Capital, on October 25, 26 and 27.

Every organization at some time or other comes to Washington for a convention. They come here for business and they come here for play. They come here with their families to see "their" city, the city their money has erected and made the most beautiful capital in the world.

**The Lincoln Memorial Building**

This year in Washington, started off with a bang, for this is inaugural year. The inaugural parade, January 20, despite the rain was a huge success. Since then hundreds of convention delegates have descended upon the city. The Cherry Blossom visitors swelled temporarily our population to an unprecedented all-time high.

Conventions and visitors come and go. And this is the year for the beekeepers to come.

Early estimates derived from state leaders indicate that at least 1200 beekeepers will find their way to Washington. Not enough for a parade possibly (Washington is rather blase about parades) but surely double, probably triple, the attendance at any previous beekeepers' meeting.

Participating in the Conference will be the American Honey Producers' League, the American Honey Institute, the Apiary Inspectors of America, the Shippers of Package Bees and Queens, the Southern Conference and at least the Maryland, Delaware and Virginia state associations.

The headquarters hotel will be the nationally-known Hotel Washington.

The general sessions and business meetings will be held in the Hotel Washington's spacious and handsome Hall of Nations. Here too, closing the three-day convention and ending everything with a grand finale will be held the banquet. This banquet alone should be sufficient reason to come to Washington. You've seen stuffed shirts aplenty, but the shirts which will grace the speakers' table this night, if our plans materialize, will be stuffed with brains and the ability to talk only five minutes and say something, and will carry labels that are household words (and we're not referring to trade names of shirts' manufacturers, either).

Special parlors have been assigned to the several organizations making up the congress for their use for any extra business sessions they may wish to hold.

Unsurpassed space for booths and tables for commercial exhibits are available. Because of the volume of advertising which naturally will be forthcoming from the first visit of the Congress to the Nation's Capitol, it is believed that the commercial displays will far surpass anything ever attempted at previous meetings. It is hoped that every industry allied directly or indirectly with the honey business will be represented.

The choice of hotel, also from the standpoint of location, is a happy one as it is situated on the corner of Pennsylvania Avenue and Fifteenth Street, N. W. (the most historic corner in town).

In the heart of the business and theatre district, across the street from the famed Federal Triangle, so close to the Good Neighbor's house that a silver dollar could easily be hurled from the roof into the White House grounds, the Hotel location is unbeatable.

It looks like a big time for beekeepers in Washington this October.

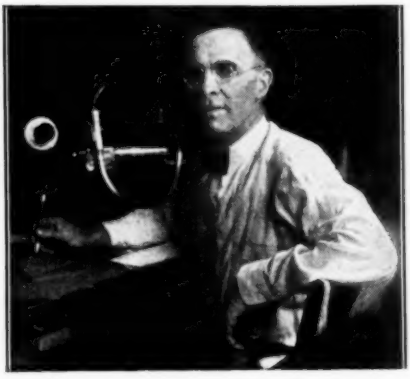
XUM

# Talks to Beginners

M. J. DEYELL

### A Worthwhile Thrill

Most of us are looking for thrills nowadays. There are different kinds of thrills, but it seems to me one of the greatest thrills a beekeeper gets is taking off the first surplus honey of the season, admiring it on the table, and of course enjoying its flavor.



I well remember the season of 1917. My wife and I were up in northern Michigan producing wild raspberry honey. Along in early July who should drop in on us one evening but Mr. and Mrs. E. R. Root. Of course, we wanted to show our Ohio guests what Michigan raspberry comb honey was like, so I managed to find a few sections that were finished and we had raspberry comb honey for supper. And what honey! Mr. and Mrs. Root pronounced it the finest they ever tasted and I honestly believe it was the best I ever tasted; in fact, I can taste it yet. It has always seemed to me that honey fresh from the hive is just a little more delicious than honey that has been off the hive for some time. Well, that was a thrill never to be forgotten.

### Another Blunder,—But it Turned Out All Right

In last month's talk I mentioned a silly blunder in connection with introducing queens. I didn't have space enough to tell you the entire story so here is the second installment:

I opened a hive that I had examined previously and knew was queenless. In times past I have introduced queens to colonies that were hopelessly queenless (and by that I mean colonies that were broodless as well as queenless and howling for a queen,) without using an introducing cage. I would simply lift a comb with adhering bees out of the hive and set the cage containing the queen on the comb for a minute or so. If the queenless bees were not antagonistic towards the queen, that is,—if they did not try to sting the queen through the wire screen of the cage, but instead, tried to feed her, I would liberate the queen on the comb. The bees would circle around the queen and start feeding her. I would then place the comb back into the hive and the queen was introduced.

I tried the procedure just described on the colony in question. When I liberated the queen on the removed comb, the bees seemed friendly towards the queen but did not start to feed her. She seemed a bit nervous. After watching the queen for a few minutes, imagine my surprise to see her take wing, circle around above the hive for a few moments and then disappear into thin air. I left the hive cover off for a few minutes thinking she might return, but I did not see her.

Three days later I opened the hive and, lo, and behold, the queen was in the hive. In fact, she had begun to lay. I knew it was the same queen because she was a Caucasian queen introduced into an apiary of Italian bees. Experienced beekeepers know that a queen that escapes from a cage when being transferred from a queen

A strong colony clustered out. It needed a wider entrance and a super to relieve congestion

shipping cage into an introducing cage will usually return to the place where she "took off", and that is what happened in this instance. It does seem peculiar, however, how and why the queen would find the hive entrance when she returned, as she evidently must have done, as the hive cover was put on shortly after she flew away. "All's well that ends well".

### Put Supers on in Time

There has been considerable swarming this season. Populous colonies need plenty of comb space to avoid congestion within the hives, which is said to be the main cause of swarming. Some beekeepers fail to put supers on in time and lose much of the crop.

Colonies need comb space for ripening honey. Nectar which is approximately 75% water is distributed in empty cells throughout the combs and this excess water is driven off by the bees and this takes time and ample comb space.

### Taking Off Surplus Honey

Beginners are naturally anxious to take off the first honey of the season. There is a tendency to remove honey before it is properly cured or ripened. Honey taken off too early is likely to ferment. Extracting combs should not be removed until they are at least three-quarters capped over. Comb honey should not be taken off until the sections are completely capped. It is well, however, to remove comb honey before it becomes travel-stained.

Beginners with a few colonies can take finished combs out of extracting supers and brush the bees off with a bee brush. Sections of comb honey may be removed in the same manner. However, a contrivance known as a bee escape, listed in any bee supply catalog, is very convenient and, in fact, practically indispensable. This device fits into the hole in the inner hive cover which is placed underneath the super or supers of honey to be removed. The bees in the supers pass down through the bee escape into the brood chamber and are unable to return to the supers, which are removed after about one day, or as soon as they are free of bees.

### Equipment for Extracting

Honey should be extracted from combs as soon as they are taken off the hives, before the honey gets cold. A two or three frame honey extractor is large enough for a beekeeper with from one to twenty hives. The extractor throws the honey out of the combs by centrifugal force after the cappings are shaved off combs with a hot knife, which is heated in a container of hot water over a gas plate or oil stove. The picture shows the complete equipment. The extracting room should have windows screened to keep out robber bees.

### Operation of Extractor

It is necessary to fasten the extractor down securely so that it does not rock while in motion. Also, combs of approximately the same weight should be selected so that the machine may not be thrown out of balance.

When uncapped combs are placed in the baskets of the extractor, a part of the honey should be thrown out of one side of the combs, which requires only a few revolutions, and then all of the honey should be thrown out of the opposite side of the combs. The combs should then be reversed and all of the honey thrown out of the first side. If all of the honey was thrown out of the first side during the first operation the weight of the honey in the opposite sides of the combs might break the mid-ribs of the combs.

Care should be taken not to turn the extractor too fast at first, until some of

(Continued on page 449)

**A complete extracting outfit: an extractor anchored on a box, a wash boiler to receive cappings, a ten-pound pail to heat water on lamp stove, uncapping knives, honey tank with strainer cloths**

XUM

# American Honey Institute Notes

Guest Editor
Mrs. Ethel Krebs, Sacramento, Calif., Chairman of the First National Auxiliary and also State Chairman of the California Auxiliary. Her husband is State Apiary Inspector of California.

## AUXILIARIES — STATE AND NATIONAL

In 1932, California had as president of the State Beekeepers' Association a man with a wide vision. He saw the possibilities that could come from a ladies' organization working in conjunction with the one of which he was then president. His name was Mr. Weems and he lived in Bakersfield, California. At our state convention that year he asked me to talk before the general assembly and later to round up the ladies and see if we couldn't form an organization of our own. We did meet, and now have separate meetings at every state convention where we discuss our own problems. Today we have what we consider a very fine Ladies' Auxiliary.

The work is carried on by county units of which we have 15 at the present time. Each county unit has a chairman and other officers of its own. It also carries on its own program—one that is best suited to that particular locality. I believe you will be interested in two very special programs that have been carried on in some of our counties and which will work out in any state where there are home demonstration agents. In California as in many other states we have state extension service. I do hope you Beekeepers' Wives have made use of this service because it is not only helpful but is free.

This program of extension service in California is carried on through the Farm Bureau and Home Department. The people thus served help make up the program and that is how we get what we need. There were requests in the Home Department for a honey cookery meeting that went to the state nutrition specialist. A honey program was worked out and was ready for the counties that wanted such a series of meetings. In 1933, one county carried out a honey program. Not until 1935 did another county ask for a honey program and that was in May of that year when Sacramento came to the front with such a request. We now have 30 counties with home demonstration agents, and there is no doubt but what honey cooking lessons will be included in future programs.

The point so far is this: the honey cookery program has been given in 11 counties, 10 of which has a Ladies' Auxiliary. To me it simply proves that the Ladies' Auxiliaries have been on the job and availed themselves of the splendid opportunity of having honey presented throughout their county by some one in an official capacity. Home Demonstration Agents are trained home economists and when they present a food subject to the public, it carries much more weight. That is only natural.

Of course not all counties have such agents and not all counties have auxiliaries so all auxiliaries have not been able to develop such a program to date. But in time they will.

Another feature some of our units have worked on is introducing a honey program to schools. This was done in some instances through honey cookery contests and in another county by having a honey poster contest just before National Honey Week. These posters were then used by the auxiliary during this special week to make the public honey conscious.

**The American Honey Institute has been of great help to us ever since our organization—in fact we couldn't get along without it.** You see it provides us with program outlines, facts, and tested recipes.

We have several new state auxiliaries and I do hope that they will not hesitate to begin their work. Start somewhere even if you only have one unit. You will be surprised how fast you will grow and the American Honey Institute has a special outline that will be of great help to you in getting your work organized. You may be wondering just how you can "carry on" without financial aid. California struggled along for several years without such help but now, thanks to the State Beekeepers' Association, we have money of our own to use as we think best. That organization voted to return to our Auxiliary all money the ladies' had paid in as dues. Now it is up to us—the more members we have, the more money we get for our Auxiliary development.

**Come to Our First National Auxiliary Convention!**

You all know by this time that a National Auxiliary was formed at the International Conference held in San Antonio, Texas, last year. If you are interested in our work of prompting the use of honey through the medium of a "happy housewife", don't fail to become a charter member of the National Auxiliary. The next National meeting will be held in Washington, D. C., October 25, 26 and 27. The nation's capital is certainly an interesting city so there will be much to see, but best of all will be the exchange of greetings and experiences with both old and new friends. Of course, we will have a program of our very own that I am sure you as an auxiliary member will enjoy.

As Chairman of this National Auxiliary, I take great pleasure in inviting all ladies interested in our work to meet with us at our Nation's Capital—Washington, D. C., in October.

XUM

# Asked and Answered

### At What Age Does A Young Queen Lay?

Question.—On May 1, I found a young virgin queen just emerged from the cell. On May 25 this queen had not begun to lay. Will she lay, and if so, how soon?—L. I. Ray, Ohio.

Answer.—Young queens usually begin to lay when eight or ten days old. Sometimes, however, they are prevented from mating by cold weather or a scarcity of drones. If a queen has not begun laying when she is three weeks old she should be killed and replaced. Such queens left in hives may become drone layers.

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### Top Supering With Full Sheets of Foundation.

Question.—You have been advocating supering on top. Last year I tried it when using extracting supers with full sheets of foundation and it didn't work very well. The bees plugged the supers above the brood chambers but wouldn't work in the supers on top. Our honey flow last summer was not so rapid as it is sometimes.—J. R. Sloan, Ohio.

Answer.—Not knowing exactly the conditions that prevailed in your apiary and locality during the honey flow it is difficult, if not impossible, to advise you intelligently on this matter. Our experience has been that top supering, even with full sheets of foundation, works, provided colonies are populous and have good prolific queens and supers are given in ample time to avoid congestion in the hives. During a rather slow or intermittent honey flow bees may not work in supers containing full sheets of foundation placed on top. Under these conditions it is doubtful if the same colonies would work in the same supers if placed at the bottom of the piles of supers, directly over the brood chambers, instead of on top. To get full sheets of foundation drawn satisfactorily there must be a good honey flow. If bees are hesitant about starting in a super of foundation, a partly filled comb taken from the super below and placed in the top super may induce the bees to enter the top super. The two main advantages of top supering are that it reduces labor in handling supers and results in well filled instead of partially filled combs which also reduces labor in extracting honey.

### Queen Trap to Prevent Swarming

Question.—Could I stop swarming by putting a queen trap on each hive? After killing the queen should I remove the trap for a time to permit the virgin queen to mate?—Nelson James, N. Y.

Answer.—The queen trap does not prevent swarming but it does trap the queen when the swarm issues. The swarm will return to the hive provided there is not another swarm in the air, accompanied by a queen with which the queenless swarm may unite. Killing the queen after the swarm has returned does not prevent further swarming. It is necessary to destroy all but one queen cell, since otherwise there would be several after-swarms and the colony would be in a state of confusion for a time. A better plan is to destroy all queen cells five days after the swarm comes out, then again five days later, after the brood has been sealed, then introduce a laying queen. The reason for destroying cells a second time is that there would still be unsealed larvae at the time the first young queen would emerge.

• • •

### Keeping Bees in Towns and Cities

Question.—I intend to buy five hives of bees from a man in the country and I wish to move them to my lot here in town. I live in the suburbs. My lot is 75x150 feet and there are some houses quite near by. Do you think the bees would bother neighbors?—Wm. C. Bailey, N. J.

Answer.—Many small apiaries are kept in towns and cities throughout the country. Occasionally bees in such areas cause trouble, especially when the owners attempt to open hives on dark days when bees are not in the fields. Usually gentle strains of bees make no trouble when handled properly. It is advisable to select a bee location that is surrounded by a high hedge, a row of trees, a high board fence, or buildings, so that the bees are forced to fly up and over and thus their line of flight will not interfere with people passing by on the street. Beekeepers should open hives only when nectar is coming in freely and extreme care should be taken to keep combs of honey covered up to avoid robbing, especially during a dearth of nectar.

XUM

# Buy and Sell Here

## CLASSIFIED ADS

**Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 15th of month preceding.**

### HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

CHOICE CLOVER, extracted, 8c. Howard Grimble, Holcomb, N. Y.

CHOICE white clover honey in 60-lb. cans, J. F. Moore, Tiffin, Ohio.

AMBER EXTRACTED HONEY in 60's, 7c. Joseph Fekel, Vineland, N. J.

FANCY clover honey, case or quantity. J. Stahlman, Grover Hill, Ohio.

MICHIGAN white clover honey. New sixties. Orval Dilley, Grand Ledge, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—Light and light amber extracted. F. W. Lesser, Fayetteville, N. Y.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

CHOICE MICHIGAN clover honey in new 60's. Arthur Thayer & Sons, Freeland, Mich.

EXTRACTED HONEY for sale. Write for prices. The Hubbard Apiaries, Onsted, Mich.

CHOICE white clover honey in new 60's. Sample, 15c. Noah Bordner, Holgate, Ohio.

ORANGE, palmetto, or amber honey in new sixties. Peter W. Sowinski, Fort Pierce, Fla.

FANCY white clover honey in 60-lb. new cans, 8c. Leslie A. Davis, Union City, Rt. 2, Ind.

FOR SALE—Extracted clover honey in sixties, 8c; amber, 7c. H. G. Quirin, Bellevue, Ohio.

MICHIGAN'S finest well ripened white honey in new 60's. Sample, 15c. Jay Cowing, Jenison, Mich.

WHITE CLOVER HONEY—Dozen 5-lb. pails, $6.00; 60-lb. tin, $5.00. F. L. Barber, Lowville, New York.

1937 CROP New York state white honey ready July 15th. Samples 10c. E. L. Lane, Trumansburg, N. Y.

WHITE CLOVER extracted, 8c; fancy buckwheat comb, $2.50 case; amber, $2.75. C. B. Howard, Geneva, N. Y.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

FANCY WHITE CLOVER HONEY in 60-lb. cans, 7½ cents; 10 can lots, 7 cents. Sample 15c. Jas. H. Hoehn, Ottoville, Ohio.

HOWDY'S HONEY—Comb and extracted in sixties will be ready for shipment this month. Howard Potter, Ithaca, Michigan.

CLOVER HONEY FROM CLOVERDALE, Ohio's finest clover extracted in 60's. Sample, 10c. Prices upon request. The Cloverdale Apiaries, Cloverdale, Ohio.

FOR SALE—Choice clover and amber extracted honey. Write for prices and sample. Jonkman & Oosting, Evergreen Park, Ill.

TUPELO HONEY FOR SALE—Barrels 7½c per pound. Sixties 8c per pound. Anthony Bros. Honey Co., Apalachicola, Fla.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Company, 108 West Sixth St., Los Angeles, Calif.

SUPPLY your customers with good honey. You only pay freight from San Antonio. Truckers and car lot buyers should write. Uvalde County Apiaries, J. A. Simmons, Prop., Sabinal, Texas.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Col.

Our this season's crop of MICHIGAN CLOVER HONEY should be ready to begin extracting about the 20th of this month, July. If you will say approximately how much you will need during the ensuing year, we will be pleased to tell you what we will furnish it for, and ship it as you need it. Can we do this? E. D. Townsend & Sons, Northstar, Michigan.

### HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyers' financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the seller.

WANTED—White, amber, and overheated honey. State price. C. Jankowski, Russell, Ill.

CLOVER honey, extracted, case, truck or carlots. Send sample and price. F. M. Babcock, Fredonia, N. Y.

WANTED—Comb, chunk comb, white and light amber extracted honeys. Any amount. Central Ohio Apiaries, Millersport, Ohio.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White and Amber Extracted Honey, any quantity, also Beeswax. Write The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

### FOR SALE

ANTI-TANGLE wiring outfits, $1.00. Robert Holsinger, Sanford, Michigan.

FOR SALE—60-pound tin cans, used once, bright, good as new, 50c per case of two; $40.00 per 100 cases. Will exchange for clover honey. F. M. Babcock, Fredonia, N. Y.

XUM

WE CARRY a full line of beekeepers' supplies. Honey taken in exchange. Prairie View Apiaries, 12213 12th St., Detroit, Michigan.

ELECTRICAL uncapping knives with transformer 110-120 volts, 60 cycles, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

COMB FOUNDATION at money-saving prices. Plain, wired and thin section. Wax worked at lowest rates. E. S. Robinson, Mayville, N. Y.

SPECIAL—Limited supply of new 1½ story observation hives. $5.00, without glass. Discount to dealers. H. Blitz, P. O. Box 3452, Phila., Pa.

QUALITY bee supplies at money-saving prices. Prompt shipment. We take honey and beeswax in trade. The Hubbard Apiaries, Onsted, Michigan.

ATTRACTIVE prices on bee supplies and comb-foundation. Send for catalog. Saves you money. The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

WAX worked into comb foundation, accepted for trade in supplies or bought. Write for our proposition and shipping tags. Walter T. Kelley, Paducah, Ky.

PROMPT SHIPMENT of Continental containers to Minnesota and N. Dakota beekeepers. Write me for carlot or less delivered your station. Gordon Bell, Grand Forks, No. Dak.

BOOKING ORDERS NOW. New 60's, 2 in a wooden case, 90c per case. Orders for 75 cases, deduct 5%; 140 cases, deduct 10%; f. o. b., Phila. Subject to change. H. Blitz, P. O. Box 3452, Phila., Pa.

BEST QUALITY soft white pine Hoffman frames, $30.00 per thousand. Complete line of bee supplies manufactured by us. All prices the lowest. Free catalog. The Walter Kelley Co., Paducah, Ky.

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

ONE HONEY PUMP, large size, with gears ready for attaching to motor; and one power uncapping knife. Will sell for less than half. Value approximately $80.00. A. H. Clagg, 624 Williams Ave., Bellefontaine, Ohio.

FOR SALE—Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit, Hamilton Bee Supply Co., Almont, Michigan.

FOR SALE—Several thousand 5-gallon honey cans in corrugated cartons. Wide mouth. Used once. Guaranteed as good as new. Price 22c each f. o. b. Millersport. Send your check and state quantity. Central Ohio Apiaries, Millersport, Ohio.

## BEES AND QUEENS FOR SALE

ITALIAN QUEENS. W. G. Lauver, Middletown, Pa.

CAUCASIAN Queens, 50c. Package bees, agreement prices. Millers' Caucasians, Three Rivers, Texas.

YOUNG three-band Italian queens, at market price, mailed anywhere any time. D. W. Howell, Shellman, Georgia.

THREE-BANDED Italian queens, 50c each. Satisfaction guaranteed. Lamar Bee Co., Box 1503, Baton Rouge, La.

ITALIAN Queens, reared by Double-graft method. Alonzo McKay, Rt. 1, Vicksburg, Mississippi.

TRADE. Queens, package bees for foundation, and wax. See display Ad. Gooch Apiaries, Farmersville, Texas.

QUEENS and Package Bees. Market agreement prices. Cypress supplies. Let us quote you on your needs. Overbey Apiaries, Bunkie, La.

CAUCASIAN queens, 50 cents each. Discount to dealers. Prompt delivery, safe arrival, satisfaction. Lewis & Tillery Bee Co., Rt. 4, Greenville, Ala.

LEATHER-COLORED Italian Bees and Queens. Marketing agreement prices. 15% dealers discount. Try us with an order. M. I. Tindal Bee Co., Greenville, Ala.

GOLDEN ITALIAN queens, untested, 50c; select untested, 75c; tested, $1.00; select tested, $1.50. Satisfaction guaranteed. Sam Hinshaw & Son, Randleman, N. C.

ITALIAN QUEENS from selected stock. Experiment Station Stock, 75c each; Spicer Stock, $1.00 each, any number. See ad. May and June Gleanings. E. G. Carr, Pennington, N. J.

LONG-TONGUED Caucasian bees and queens, Gentle, prolific, hardy. Better honey gatherers, winter better. Queens, 50c each. 15% discount to dealers. P. B. Skinner Bee Co., Greenville, Ala.

DARK ITALIANS—The best bees on earth, we think. Young laying queens, full of eggs and pep. Quick shipment. Large or small orders. Price, 50 cents each. J. F. Diemer Co., Liberty, Mo.

QUALITY QUEENS—3-banded Italians, prolific, gentle, great honey-gatherers, safe arrival. No disease known in our apiaries. Carolina Apiaries, Dalice E. Crawford, Mgr., Haw River, N. C.

FANCY GOLDEN Italian queens that build fancy colonies, good honey producers. Untested, 50c; tested, $1.00. Requeen now with these queens, the main point in good beekeeping. Guilford Apiaries, Guilford College, N. C.

GOLDEN Queens, Excellent quality that produce hardy, gentle workers. Personally reared. Untested, 50c; tested, $1.00. Health certificate. Safe arrival and satisfaction guaranteed. O. E. Brown, Route 1, Asheboro, N. C.

"SHE-SUITS-ME" QUEENS—None better Only choice selected queens sent out. Line-bred 3-banded stock. Prices after May 20,—one laying queen $1, six for $5. Special price on large quantities. Send for circular. Allen Latham, Norwichtown, Conn.

EXTRA YELLOW Italian Queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested, 50c each; tested, $1.00 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, Rt. 2, N. C.

THREE-BANDED Italian bees and queens, of fine quality, and extra fine honey-gatherers. To make sure of a honey crop try our bees and queens. No disease here. Satisfaction guaranteed. Marketing agreement prices. Almance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

"Mr. Walter Newcomb, Orsino, Fla. Dear sir: Thanks for the money order for $2.50 for five Silver Run queens in our introducing cages. All you have to do is be sure the colony to be requeened has no queen or queen cells. Hang the cage between frames of brood. She will be laying within three to five days but wait six to ten days to remove the cage.—Respectfully, Silver Run Apiaries." Good stock. Good queens. No loss in introducing. Simplicity. Saves time and money. Try our queens. Silver Run Apiaries, Phenix City, Ala.

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# Prices are Down

Take advantage of lower prices and requeen those failing colonies with queens of **PROVEN QUALITY.**

Untested queens, each....$ .50
3-lb. pkg. with queen.... 2.55
Other sizes at agreement prices.

## Rossman & Long

**Moultrie, Georgia**



**HERE WE ARE AGAIN!**
**STEVENSON'S GOLDENS,**

REAL QUALITY QUEENS. The kind you NEED, WANT, AND SHOULD HAVE, for we are very prolific, and our bees are so gentle; and are the best of honey producers.
Write for descriptive circular.
Prices as per marketing agreement.

**STEVENSON'S APIARIES,**
**Westwego, La.**



**Palmetto Quality Queens**

50c each balance of season.
15% discount to queen dealers.
Don't fail to requeen your colonies this summer with these Queens. It is the best insurance you can have for a 1938 crop of honey. Prompt delivery and satisfaction guaranteed.

C. G. ELLISON & SONS,
Belton, S. C. R. D. 2.



Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the
**"Australasian Beekeeper"**
Subscription 5 shillings per year. Start any time. Inquire for International Money Order for five shillings (Australian) at your Post Office.
Write now to The Editor, P. O. Box 20, West Maitland, New South Wales, Australia.


CHOICE bright Italian queens that are a pleasure to work with and be proud to own. The stock has been bred and selected in the North the past 34 years for good winterers, hustlers, gentleness, and fine color: 75c each; dozen, $8.00; breeders, $6.00. Emil W. Gutekunst, Colden, N. Y.

GOLDEN Italian queens that produce workers. Very gentle to handle. Good honey gatherers. 30 years a breeder. I don't let a colony build over 12 cells at the time to get good queens. Satisfaction guaranteed. Untested, 50c; tested, $1.00; select tested, $1.50. D. T. Gaster, Rt. 2, Randleman, N. C.

LIGHT 3-BANDED ITALIAN QUEENS—We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We ship only young, laying queens and guarantee them to be purely mated and satisfactory to you. You're the judge. Price 75c each. To dealers, 65c each. We need dealers in many localities. The Walter T. Kelley Co., Paducah, Ky.

## ROOT EXTRACTORS

FOR SALE—1 45-frame Simplicity extractor, 1 4-frame extractor, honey pump, 150-gallon honey tank. N. V. Franklin, 3301 Fowler Street, Omaha, Nebr.

## MISCELLANEOUS

WANTED—Radial extractor. Robert Peach, Arlington Heights, Ill.

WANTED—100 colonies or more, location and equipment. John Grisak, 341 Monroe, Gary, Ind.

WANTED TO TRADE—Dairy farm for house, bee farm, or chicken farm. Write P. O. Box 135, Downsville, N. Y.

WANTED—FILTER PRESSES—all sizes and types. Also bottling equipment. Consolidated Products Co. Inc., 15-21 Park Row, New York, N. Y.

THE BEE WORLD—The leading bee journal in Great Britain, and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingworth, The Way's End, Foxton, Royston, Herts, England.

## TOO LATE TO CLASSIFY

NEW CROP clover comb and extracted honey ready to ship July 15. F. J. Smith, Castalia, Ohio.


## Fresh from Our Yards

We can make immediate shipment of three-banded Italian Queens.

Marketing Agreement Prices.

**Citronelle Bee Co.**
**J. T. HAERTEL, Mgr.**
**Citronelle, Alabama**

# QUEENS QUEENS

## Three-Banded Leather Colored Italians

If you are interested in results, order our Three-Banded Leather-Colored Italians.

Three years of comparative tests have proved that this strain has superior qualities.

The prolificness of these queens will surprise you. Beautiful combs of solid brood to insure strong colonies in the shortest time.

The year is still young for increases and requeening.

Daily production over 150 queens. Orders appreciated.

**Price 50c.....15% Discount to Dealers.**

**GARON BEE COMPANY, Donaldsonville, Louisiana**

## At Indianapolis--Get Our Prices

Root QUALITY BEE SUPPLIES

We have a fine stock of bee supplies and give prompt service to all parts of the state.

LET US QUOTE ON SEASON'S NEEDS

A. I. ROOT CO. OF INDIANAPOLIS 121 N. Alabama, Indianapolis

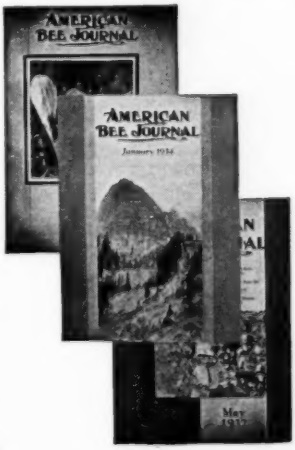
# 2 Years $1.50

American Bee Journal—monthly; published and edited by beekeepers for beekeepers. Full of pictures and tips on care of bees and selling of honey. **SAMPLE COPY FREE.**

**$1.00 a year, 2 years $1.50 in U. S. A. and Canada.**

Combined with Gleanings in Bee Culture—both magazines, **ONE YEAR, $1.60.** This offer good only in the United States. Address—

**American Bee Journal, Hamilton, Illinois**



# July Queens!

Marketing Agreement Prices

**The Puett Company**

"Where Satisfaction is a Certainty"

**HAHIRA, GEORGIA**

# QUEENS!

—THE VERY BEST—

Fifty Cents Each

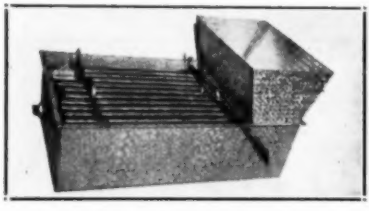
Italians - Caucasians

**Weaver Apiaries**

**Navasota, Texas**

It will pay you to investigate the

**Brand Capping Melter**



Write to the:
Superior Honey Company,
The A. I. Root Company,
Dadant & Sons,
A. G. Woodman & Co.,
C. W. Aeppler Co., Oconomonoc, Wis.
or

The Brand Honey Farms
Mitchell Nebraska

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.


## JUST NEWS

(Continued from page 433)

the Ladies' Auxiliary at which Mrs. Malitta Jensen or Miss Mercedes Cranston will be speakers.

• • •

The summer meeting of Ohio Beekeepers which is scheduled for August 4 and 5 at Medina, Ohio, promises to be one of the largest summer meetings of the year. The two days' program will be crowded with tours, educational talks, and entertainment. In reality this meeting will be regional in scope as Indiana, Michigan, and Pennsylvania beekeepers will attend, and prominent speakers from these states will participate in the program. A cordial invitation is extended to all.—Dr. W. E. Dunham.

• • •

A meeting of the Minnesota Beekeepers' Association will be held July 30 at Excelsior.

• • •

Chas. A. Reese, President of American Honey Producers' League, has appointed his committee on resolutions for the Washington meeting as follows: Geo. W. Bohne, Luling, La., Chairman; M. J. Deyell, Medina, O.; M. G. Dadant, Hamilton, Ills.; H. F. Wilson, Madison, Wisc., and E. G. Le Stourgeon, San Antonio, Texas.

It has been suggested that resolutions for the coming meeting be carefully prepared and that those interested write Chairman Geo. W. Bohne, suggesting subjects for resolutions.

### TOO LATE TO CLASSIFY

WANTED—Man for balance of season. Edw. Klein, Gurnee, Ill.

BEST BEE HUNTING OUTFIT. Many good testimonials. Grover, Bristol, Vermont.

PACKAGE AND QUEEN business, in Gulf Coast State. 300 colonies, 600 nuclei, other equipment. Best cash offer above $3500 gets all. Box 25, care Gleanings, Medina, Ohio.


# Italian Queens

**Leather-Colored**
**LARGE SIZE**

Young laying queens mated from strong 3-standard frame nuclei. Carefully reared. Replaced, no charges, if they fail to satisfy.

**Young laying queen.....$ .50**
**2-lb. pkg. queen,..... 1.95**
**3-lb. pkg. queen,..... 2.55**

**GOOCH APIARIES**
**Farmersville, Texas.**

# An Open Letter to The A. I. Root Company:

On page 389 of the June issue of Gleanings in Bee Culture you picture and show the defects of an all-wire welded queen excluder, which is undoubtedly the queen excluder that I am selling. For many months you have been telling of the defects of all-wire excluders but now that you picture and specifically show the defects of my excluder I feel that I must publicly come to the rescue of my product.

1st You admit that there is a large and an insistent demand for an all-wire excluder, otherwise you would not have spent over $1,000.00 attempting to devise a better one than I offer and you also admit your failure to accomplish this.

2nd Your spacing of wires .158 to .164 is questioned by many exacting beekeepers. As you know, one beekeeper in your own state of Ohio is manufacturing a leaded wire excluder with a wider spacing than you recommend, which large beekeepers inform me is more preferred than yours, as it permits the faster passage of bees and consequently more honey is stored above the excluder than with your spacing, and the queens do not pass through in actual practice. This .158 to .164 space is the space that worker bees can pass through and that the queen can not pass through when forced under smoke, to move or die. Under usual hive conditions queens will not pass through a wider spacing.

3rd Taking one of my 8-frame welded excluders from stock and comparing it with a three-wire excluder this is what I find:

| Kelley's 8-frame welded excluder | 8-frame 3-wire style |
|---|---|
| 54 spaces wide in all with spacings as listed below | 18 spaces all between .158 and .164 |
| 4 spaces less than .158 (not usable) | |
| 28 spaces .158 to .164 (regulation size) | |
| 22 spaces more than .164 (quick passage size) | |

**SCORE.** My excluder has over 2¾ times the usable passage way of the three-wire excluder.

4th But all of this is talk. How do these excluders work in actual practice? I have sold tens of thousands of these welded excluders and my customers agree with me that they are a big improvement over the wood-and-wire excluders. Both my customers and I are confident that my welded, wire excluders are the STRONGEST—LIGHTEST—CHEAPEST and BEST excluders made.

## The Walter T. Kelley Co.

Manufacturer of Bee Supplies Paducah, Ky.


XUM

# THREE-BANDED ITALIAN QUEENS

**REARED IN THE MOUNTAINS (3500 Feet Elevation)**
**SELECT UNTESTED QUEENS 50c EACH, NET**

Post Office: Shasta, Shasta Co., CALIFORNIA

**Shasta Apiaries**

Express Office REDDING, CALIF.

**Geo. W. Moore** **F. W. Chapman**

## "NORMAN'S QUEENS SPEAK FOR THEMSELVES"

3-Banded Italians, now 50c. By Return Mail.

I rear BEES and QUEENS of the finest quality, equal to the best on the market. They are easy to work with and are real honey-gatherers. Purely mated. Safe arrival and satisfaction guaranteed in U. S. and Canada. All packages F. O. B. express. State Health Certificate furnished. Order now and be among my many satisfied customers.

Prices, June 1 to Oct. 31

Untested Queens, 50c. 2-lb. pkg. with Queen, $1.95

Rt. 2, Box, 38. JOHN A. NORMAN LaPine, Ala.

**CARNIOLAN & AUSTRIAN QUEENS**

Our queens are hardy, gentle, prolific, great honey-gatherers, builders of very white combs. Use mostly wax in place of propolis. No foulbrood here. No package bees.

**Untested Queens, June 1 to Nov. 1, 50c.**

**A. M. MIDDLETON, FORT EDWARD, N. Y.**

## Screw-on Gate

Fill bottles, pails, from 5 gal. cans. Patented. Saves time and labor. No dripping or splashing. Well made, nickel-plated. Sizes 1¾" to 3"; measure across cap. Price $1.00 plus postage. Weight 1 lb.

## BEE HIVE PLIERS

Quickly and easily removes any frame desired. Scraper or pry on handle. Cadmium plated. 75c postpaid. Order from Ernest Fahlbeck, 406 S. Springfield Ave., Rockford, Ill. C. W. Aeppler, Oconomowoc, Wis. Walter T. Kelly Co., Paducah, Ky. August Lotz Co., Boyd, Wisc.

# Moore's Strain

**LEATHER COLORED ITALIAN QUEENS—SUPERIOR STOCK**

## 50c Each

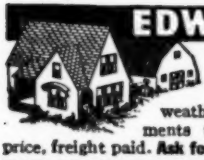
World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed.

## J. P. MOORE

Morgan Kentucky, U. S. A.

# DIAMOND

**HONEY FOR SALE**
**PACKED OR BULK**
**A CAN OR A CARLOAD**
**THE DIAMOND MATCH CO.**
**Chico, California**



**EDWARDS METAL ROOFS**

**Look better, last longer, costless.** Protection from fire, lightning, wind and weather. Send roof measurements today for money-saving price, freight paid. **Ask for Catalog 89.**

**THE EDWARDS MANUFACTURING CO.**
733-783 **BUTLER ST.** **CINCINNATI, OHIO**

# DEALERS ATTENTION

We have a special proposition of interest to all dealers or to all beekeepers who wish to become dealers of Beekeepers' Supplies. Write for information. All goods are **GUARANTEED SATISFACTORY.**

**Falcon Quality Products**

**W. T. Falconer Mfg. Company**
**Falconer, New York**

## CAUCASIAN QUEENS FOR JULY

Untested, each, 50c; tested, each, $1.50; select tested, $2.00. Breeders shipped in cage, each, $5.00; shipped on comb, each, $7.00. Queens offered are representative of the race. Try them and note how easy they are to handle.

**BOLLING BEE CO., Bolling, Ala.**

## THRIFTY
### Three-Banded Italian Queens

50c each
15% discount to dealers

Young, vigorous queens will help you prepare your colonies for winter and bring them out in the spring ready for the early flow of nectar. Replace your old or inferior queens now and reduce winter loss and spring dwindling.

Forty-four years' experience assures you of the best stock.

**W. J. FOREHAND & SONS**
**Fort Deposit, Ala.**
Breeders since 1892.

**Choice Italian Queens**

**By Return Mail**

Our many years of careful selecting and breeding enable us to offer you queens and bees with all good qualities, such as honey production, thriftiness, gentleness, size, and color. We guarantee purely mated, safe arrival and satisfaction.

Untested Queens, each.....$ .50
2-lb. pkg. with Queen, each..... 1.95
3-lb. pkg. with Queen, each..... 2.55

## Norman Bros.' Apiaries
**Ramer, Alabama**

## GET RUNNING'S BEES
**And Get Honey—They Satisfy**
**PACKAGES AND QUEENS**

The kind WE use in our extensive Michigan Apiaries, where WE produce honey by the carload.

**ALL ITALIAN STOCK**

Service guaranteed. Stock bred for honey-getting and gentleness. Apiaries accredited and certified by Alabama Department of Agriculture. Get our free circular. YOU can now get RUNNING'S bees and queens as cheap as others.

All bees and queens shipped from our Alabama Apiaries.
2-lb. pkg. and queen, $1.95; 3-lb. pkg. and queen, $2.55. Untested Italian Queens, 50c. No discounts.

**DAVID RUNNING APIARIES**
**Sumterville, Ala., or Filion, Mich**

# Knight's
## Dependable Queens

**TREAT YOURSELF to THE BEST Line-bred, Three-banded Leather-Colored Italians, Accredited and Certified by Alabama State Department of Agriculture.**

They are extra large, producing large bees. All queens carefully reared and are the best that can be produced.

**All queens guaranteed mated pure.**

**PRICE POST PAID Select (one grade), 50c. No charge for clipping. No disease. Prompt shipment.**

**Jasper Knight, Hayneville, Alabama**

**In**
**Silver it is Sterling**
**Automobiles it is Packard**
**Hats it is Stetson**
**Queens it is Cutts**

2-lb. pkg. with queen.....$1.95
3-lb. pkg. with queen..... 2.55
Untested queens..... .50

## J. M. CUTTS & SONS
**Rt. 1. Montgomery, Ala.**

# Better Queens

We realize your queens must be good. We select all breeding stock very carefully from a strain of hard working bees. Our methods of rearing your queens are most modern. We produce those BETTER QUEENS that you should have to make a PROFIT. Order today. We will ship immediately. Selected untested queens, 50c each.

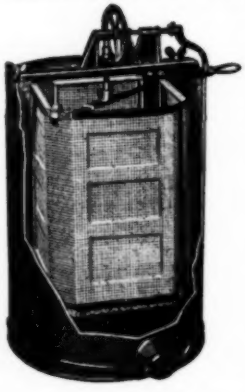
15% discount to dealers.

## N. B. Smith & Company
**Calhoun, Alabama**


XUM

# THIS DOUBLE DUTY EXTRACTOR

**Extracts Combs Fast and Efficiently. Dries Cappings in Few Minutes**



**PATENTED**

**60 Years of Service Your Guarantee of Quality.**

The new No. 12 takes Three Jumbo Frames or Six Shallow Frames at a loading. The new No. 14 (illustrated) takes Four Standard Hoffman Frames or Eight Half Depth Frames at a time. The No. 10 takes three Standard Frames or Six Half Depth Frames.

Almost impossible to break a comb while extracting. Fast —efficient—the Ideal extractor for the average beekeeper. Crank is on side for easy turning.

**CAPPINGS DRIED QUICKLY AND RIGHT**

Loosen two wing nuts and entire top lifts off to easily pour in cappings. Whirling a few minutes dries them. Reel basket is quickly lifted out to dump dried cappings and for easy cleaning. Ball bearing reel, heavily built throughout, adjustable honey gates.

Double Duty feature alone is worth half the price and found only on these extractors. **Write for complete extractor catalog.**

| Size | Pockets | Weight | Price |
|---|---|---|---|
| No. 10—3-Frame or 6-Frame | 9⅝"x16" | 40 lbs. | $13.35 |
| No. 12—3-Frame or 6-Frame | 12 "x16" | 48 lbs. | 14.90 |
| No. 14—4-Frame or 8-Frame | 9⅝"x16" | 48 lbs. | 14.35 |

**NOTE THESE LOW PRICES**

| | |
|---|---|
| 24-Frame Radials | $78.00 |
| 2-Frame Reversibles | 21.50 |
| Bee Smokers, 3½"x7", tin | .95 |
| 8½" Plain Uncapping Knife | 1.10 |
| 10½" Plain Uncapping Knife | 1.25 |
| Steam Heated Knives, 10½" | 4.35 |
| 2-Gal. Steam Boiler | 2.50 |
| Hive Tools—8".....45c—10" | .50 |
| Bee Escapes, 11c each or 12 for | 1.15 |
| Wire Embedders | .20 |

ASK YOUR DEALER—If he cannot supply Standard Products, write us for prompt shipment or catalog.

## THE STANDARD CHURN Co., Wapakoneta, Ohio

# FASTEST UNCAPPING MACHINE

## ON THE MARKET TODAY

Pat. No. 1861939

**All Metal Ball Bearing**

The long steam heated knife vibrates lengthwise from 700 to 900 strokes per minute. Operator can uncap 3 to 5 standard combs per minute. Depressions may be uncapped as well as bulged combs.

The machine is driven by a round belt from 1/6 horse power motor or direct from extractor shaft.

**PRICE ONLY $26.00**

without motor.

Shipping Wt. 32 lbs.

**See Your Root Dealer**

## TALKS TO BEGINNERS

(Continued from page 437)

the honey is thrown out of the combs. Frequently perfectly good combs are cracked or broken, due to carelessness. Good straight combs consisting of worker cells are valuable property to a beekeeper.

### Problem of Dark Honey Getting Mixed With White

In buckwheat regions it is necessary to get white honey removed from hives before the buckwheat honey flow begins as the darker buckwheat honey would darken the white honey if mixed with it. In some parts of New York State, Pennsylvania, North Eastern Ohio, Ontario, and Michigan, this is a problem with beekeepers.

Due to the copious rains that have brought on an abundance of little white or Dutch clover in the North it is possible the clover honey flow may be prolonged this season. It does seem that the drouth is definitely broken.


# Miracle Queens

Eighteen standard combs of brood in February for a three-year-old queen! On top of this produced more honey and bees than anything in our yards for two years. Our breeder for this year did these things. This remarkable power is yours if you order HONEY BOWL queens, and the truth of this astounding record will be seen.

Health certificate and 100% satisfaction. Air Mail service 7 days per week. Only 50c each for any number. 15% off to dealers. Clipped free.

**Honey Bowl Apiaries**
Reserve, Louisiana

WHEN YOU PAY FOR

## Good Bees and Queens

Be sure you get them. Order Forehand's. How many times have you been disappointed in stock and service? And just think for the same price you could have had Forehand's.

Early blooming plants enable us to rear queens from natural sources.

2-lb. pkg. bees with unt. queen....$1.95
3-lb. pkg. bees with unt. queen.... 2.55
Untested queens..... .50

N. Forehand, - DeLand, Fla.

# "YES"

**Queens Via Return Mail.**
No delays. I ship when you want them.

**Price List**
Select Untested Queens, 50c each.
Select Tested, $1.00 each.

15% Discount to Dealers For Re-sale.

Accredited and certified by Alabama State Department of Agriculture.

All Queens Guaranteed Purely Mated

## W. E. HARRELL

Formerly Hayneville Apiary Co.
HAYNEVILLE Alabama

## Caucasians

Extra gentle, prolific, long tongue, little swarming, dependable workers—10% to 40% ahead of Italians. Wintered here out-of-doors and bred in a climate like their native land—severe winters—cold windy springs—thus insuring their good qualities. Foundation stock from mountainous province of Terek, Caucasus.

## Carniolans

Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 435 lbs. extracted per colony over the whole yard. 31 years' experience with them. Have supplied many State Agricultural Colleges and Experiment Stations with them. My own and Jan Strgar imported strains.

**Prices—Untested queens, 1 to 6, 60c each; six or more, 50c each. Tested, $1.00 each. Breeding queens, $5.00 each.**

Both races winter better than average Italians. Both races build up more readily during the unfavorable springs of our eastern and northern states and are ready for the early flow. Both these races will improve your Italians in gentleness and honey gathering. July is a good time to do general requeening.

**ALBERT G. HANN**

GLEN GARDNER, NEW JERSEY

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.


XUM

# SELL IT!

## Help Your Customers to Seasonal Uses for Honey. Give Them Recipes Tried and Tested in the INSTITUTE KITCHEN

### FOR RIGHT NOW

Recipes for using honey in Canning and Preserving.
An attractive six page folder.
To members: 60c per 100—$4.15 per 1000
Non-members: 70c per 100—$5.00 per 1000

Recipe Stickers for honey containers. (Ungummed)
For MEMBERS ONLY. Carry the members' seal, one honey recipe, and entitle the customer to free recipes by writing to the Institute Office. $1.65 per 1000.

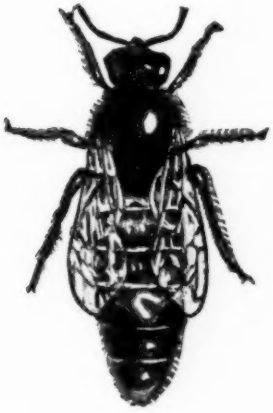
### FOR ALL THE TIME

Write for sample set with prices. Include this ad.

## American Honey Institute

Madison Wisconsin

# QUEENS!



**Q** stands for Quality—this means the best
**U** stands for Uniformity—they all must be good
**E** stands for Excellent—the results you obtain
**E** also for Extracted—the honey they produce
**N** stands for Now—the time that you need them
**S** stands for Stovers—the place to buy

**Mated Italian queen**.....**$ .50**
**Two-Pound Package with Queen**..... **1.95**
**Three-Pound Package with Queen**..... **2.55**

**15% Discount to Dealers**

## The Stover Apiaries

## Mayhew, Mississippi


XUM

# Queens
# Queens
# Queens

Following the package bee rush we are ready for the greatest queen business in our history. Whether you wish one queen or a thousand we can supply you quickly. Remember Quality Bred Queens for business, every queen a good one and guaranteed to please.

| | |
|---|---|
| Untested Queens, each | $ .50 |
| Tested Queens, each | 1.00 |
| 2-lb. pkg. bees with queens, each | 1.95 |
| 3-lb. pkg. bees with queens, each | 2.55 |

Pkg. bees without queens, deduct price of queens.

## York Bee Company
## Jesup, Georgia, U. S. A.

(The Home of Quality Products)

## HONEY MARKET

(Continued from page 397)

look well but are rather spotted, and in some sections beekeepers will depend primarily upon alfalfa. However, as the bee supply trade is reported good it is an indication that beekeepers generally are confident of securing a fairly good crop of honey ths year.

**SUMMARY.**—Temperatures have been above normal in the East, but it has been abnormally cool over much of the central part of the country with widespread light frost over much of the Northwest. Rain has fallen rather heavily over much of the East and the Plains States though the Rockies and westward have been generally dry. The cooler weather has restricted bee activities and prospects in the Mountain States are less favorable than anticipated a few weeks ago. The heavy rainfall throughout much of the Clover Belt and the upper Plains States has improved the outlook for a flow from remaining clover and sweet clover plants. Seedings for next year's plants are coming along in good numbers. The cool weather encouraged an exceptional amount of swarming where colonies were not properly handled. Early Orange and Sage honeys in Southern California are reported unusually light in color and with heavy body. Where available, locust has yielded exceptionally well this year, and strong colonies took off more than the usual amount of surplus from fruit bloom in spite of cool weather. Crop prospects are irregular throughout the Clover Belt, and in the Plains Area many commercial beekeepers are considering the advisability of moving colonies from Nebraska and Western Iowa to Northern Iowa and Southern Minnesota for a better honey flow. Small remaining lots of honey of the 1936 crop are being gathered up and no carry-over of importance into the new season is anticipated. The market price shows little change.

# Who Wants Me?

Merrill can supply thousands just like me.

| | |
|---|---|
| Untested Queens, any number, each | $ .50 |
| Tested Queens | 1.00 |

Orders filled promptly. 15% discount to dealers.

## Merrill Bee Company

Bucatunna, Mississippi

Mississippi's Oldest Shippers

# BETTER-BRED QUEENS THREE-BANDED ITALIANS

**$0.50 each. 42½ cents to dealers.**

Head all of your colonies with our Better Bred Stock. They have proven their good qualities throughout the U. S. A. and Canada. Use them for increase, requeening and swarm control.

## CALVERT APIARIES, CALVERT, ALABAMA

## Filling Orders Now!

**For Hollopeter's three-band Italian Queens.**

We have never been able to supply the demand for early queens, and sometimes fell short of enough for later demands.

With doubled capacity and your cooperation in anticipating your needs as far ahead as possible, **SERVICE** and **SATISFACTION** at all times is our aim.

Untested queens, 60c each; two or more at 50c each. Safe arrival and satisfaction guaranteed. Most orders by return mail.

**WHITE PINE BEE FARMS**
**Rockton, Pa.**
(With Gleanings from 1911)

## Mack's QUEENS

**(They Speak for Themselves)**

Head your colonies with MACK'S Big Vigorous 3-band Italians. The only breeder in the world that gets **All** his cells started and completed in Queen Right Colonies. Just the way bees do it naturally. The cells Mack produces are as near perfect as bees can build them and the queens that emerge from them will in due time Speak for Themselves. You can Depend on Mack for Better Queens. Prompt service and Fully Guaranteed for only 50c each.

**HERMAN McCONNELL**
(The Bee & Honey Man)
ROBINSON Rt.2 ILLINOIS

## QUEENS Balance of Season. 50c each

We are now producing queens from the daughters of the Iowa Girl. This queen of our own strain sold to a customer in Iowa, produced 5 honey crops and did not attempt to swarm. Our location is free of disease.
**TAYLOR APIARIES, LUVERNE, ALA.**

## QUEENS!

Our queens are bred from stock recently imported from Italy. Very prolific, gentle and great workers.

50c each, any amount.

**The Crowville Apiaries**
**Winnsboro, La., Rt. 1.**

## MOTT'S NORTHERN-BRED Italians

Eliminate that swarm nuisance.

July—1, $1.00; 2 or more, 75c each. Granddaughters from a May, 1932, queen that produced 360 lbs. of honey in 1936, her fifth season.

**E. E. MOTT** **Glenwood, Mich.**

## Package Bees and Queens

**By Pound, Ton or Car**
**Service—Satisfaction**
**Trade Agreement Prices. Write for particulars.**
**VICTOR APIARIES : : UVALDE, TEXAS**

## BIG ADS, BIG CLAIMS

don't get honey. Our bees do.
Marketing Agreement Prices.
**SULLIVAN'S APIARIES**
**Gilbertown, Ala.**

**WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.**


XUM

# JENSEN'S

## "Magnolia State"

## Strain Italians

Equal to any, Superior to many. Twenty-three years actual queen-rearing experience, 18 years in our own name. We do not take a back seat for Mr. Anybody when it comes to rearing good queens. Enjoy the possession of Pure Stock, and at the same time get maximum results. Balance of season 50c ea. Wings clipped free of charge.

## Jensen's Apiaries

**Box 305, Macon, Miss.**

---

**BEES OF GOLD**

Personally reared powerful GOLDEN QUEENS improved and bred UP from Italian stock. Remarkably beautiful bees, gentle, large, and CHAMPION HONEY PRODUCERS!

60c each, postpaid.
50c each, in single shipments of ten or more.

**SPOERRI APIARIES**
**St. Bernard, P. O., Louisiana**

---

## Queens—3-banded leather-colored

Daughters of queens imported from Northern Italy, Great honey-gatherers.

**BRIGHT ITALIAN QUEENS**

Bred from queen now four years old, whose colonies, in her third year, (1936), produced 300 pounds of surplus honey. I have been breeding this strain for 12 years and guarantee them to satisfy, and not to sting you to death. Specify which stock is wanted. Prices, 1 to 24, 60c each; 25 or more, 50c each. 15% to dealers.

**WEST BRANCH APIARIES**
GROVER HILL, OHIO

---

# For Sale!

## Pure Italian Queens and Bees

Nothing but the best. Bright yellow and three-banded queens, 50c each. Try us with a part of your wants in bees. Retail and Wholesale Prices

You send for them—they go

**GRAYDON BROS.**

**Route 2** **Greenville, Ala.**

---

# Italian Carniolan Caucasian QUEENS

Reared in separate apiaries. Breeding Carniolans from Imported Stock.

**Price 50 cents each.**

**RONALD KIRK, Rockton, Pa.**

---

# Bright ITALIAN QUEENS by Return Mail

Owing to our special breeding and selecting method we have a bright strain of Italian bees that swarm less, build up fast and are good honey-gatherers. If honey is your object, order NORMAN'S QUEENS. All queens are guaranteed to be pure mated and to give perfect satisfaction or your money back.

| | |
|---|---|
| Young laying queens, each | $ .50 |
| Tested queens, each | 1.00 |
| 2-lb package bees with young queen | 1.95 |
| 3-lb. package bees with young queen | 2.55 |

Queens by parcel post, postage paid. Packages by express, F. O. B. State Inspection Certificate. No stamps accepted.

## NORMAN BEE COMPANY, LaPine, Ala.

Lotz Leads the Way Again to a New Perfection in Comb Honey Sections by Announcing

# A New Smooth Dovetail

No fuzz—No rough edges—resulting in greater folding speed and smoother corners, inside and outside.

**DOVETAILS** made to fit snugly—Takes more than 10 lbs. to pull them apart.

**LOTZ** was the first to announce the OVAL V-GROOVE. First to perfect a really GLOSSY POLISH.

**AND** now this sensational announcement of the NEW DOVETAIL which, after all, constitutes the greatest factor of a comb honey section. The V-Groove and Finish are vitally important but to what extent without the DOVETAIL?

**THIS** new perfection will be found on all LOTZ SECTIONS, be they regular or the tiny individual sizes, and that reminds us to tell you that we have Individuals for sale and will gladly quote on request from you.

**Write for container prices.**

AUGUST LOTZ COMPANY, Boyd, Wis.

# Root Service FROM CHICAGO

# THE HARVEST

**What will the harvest be?**

To produce bees, to gather nectar, and make honey is the part of the bees.

To provide for and make convenient conditions is the part of mankind.

For results the bees demand:

Seasonal Capacity Hives
Food-Chamber Hives
Efficient Combs
Three-Ply Foundation
Correct work-room
Root Quality Hives & Supers

The bees are pleased with Root Quality.

This business stands ready to help you. Write us your query about bees or equipment needed. Root's new 1937 catalog is free.

**A. I. Root Co. of Chicago**
224 West Huron St.
CHICAGO, ILL.

## *Extracting Equipment*

We have a full line of Root Quality Extractors, Uncapping Machines and Knives, Honey Tanks, Motors, Belts, Pulleys, also Brand Capping Melters—everything to make your outfit complete. Let us help you select the right equipment for your needs!

## *Honey Containers*

Get your Tin and Glass Containers from us at last year's prices. There will be no change to September 1st. ORDER EARLY! Get our special prices on large quantities.

## *Beeswax*

We buy beeswax, also render old combs and cappings. Send for our terms.

**A. I. Root Co. of Syracuse**
Midland Ave. and Tallman St.
SYRACUSE, N. Y.

*Serves You Best*


XUM

# A GOOD RULE

**Buy your Bees and Queens from**

## Alabama Apiaries

**WHY?**

We give you full-weight packages of pure Italian bees, purely mated queens, live delivery and prompt service. We have the bees and queens to furnish what you want when you want it.

We have been in the queen-rearing business for over sixteen years and worked with Mell Pritchard, the world's best queen breeder, four years.

Give us a trial order. Our aim, "Once a customer, always a customer."

Health certificate accompanies each order. We support the American Honey Institute. Do you?

2-lb. pkg. with queen.....$1.95
3-lb. " " " ..... 2.55
Queens, postpaid, each..... .50

15% discount to dealers

## Alabama Apiaries

MT. PLEASANT, ALABAMA

# Lady - Like Caucasians

**The World's Gentlest Bee**

• • •

Select young queens, 50c each for the remainder of the season. If you want genuine MOUNTAIN GREY CAUCASIANS.

• • •

## Caucasian Apiaries

**Brooklyn, Alabama**

is the place to get them.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